

ITEMS OF INTEREST.

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No. 2

Notes from the Profession.

Concerning the Dental Section of the Tenth International Medical Congress.

IN response to a call of the organizing committee (Professor Virchow, von Bergmann and Waldeyer) fifty delegates from the various universities and medical societies of Germany met in Heidelberg on the 17th of September, 1888 to take steps in the organization of the Congress. At the meeting it was decided to hold the Congress in Berlin, beginning August 4th and closing August 10th, 1890.

An organizing committee consisting of Profs. Drs. Virchow, von Bergmann, Leyden and Waldeyer was chosen and a general Secretary, Dr. Lassar, appointed.

Eighteen sections, one of Dental Surgery, were organized, each with its special committee of nine members.

An International medico-scientific exhibition is to be connected with the Congress. We give below Statutes and Program as far as they particularly concern the dental profession :

ART. II. "The Congress consists of physicians (approbirten Aerzten) who have registered and obtained their membership. Savants who are interested in the work of the Congress may be admitted as extraordinary members."

The delegates did not see fit to change this article so as to include dental surgeons, but decided that the article should be so interpreted as to admit dentists to membership. Since the meeting at Heidelberg the question has been raised whether dentists resident in Germany, but not possessing the German dental approbation (degree), could be admitted to membership. Regarding this point the chairman of the committee of organization decided that only those who possess the recognized degree of that country of which they are citizens, may be admitted to membership.

A German citizen holding only an American or Swiss degree is, therefore, not entitled to membership, no more is an American or English citizen not possessing the degree of his own country ; on the other hand, foreign citizens practicing in Germany are admitted without the German degree, provided they have the degree of their own country.

Members pay a fee of twenty marks and receive a copy of the Transactions.

ART. III. The object of the Congress is exclusively scientific.

ART. X. All lectures and communications in the general sittings, or in those of the section, must be handed, in writing, to the Secretary before the close of the sitting. The editorial committee decides whether, or in what part, such communications shall be included in the published Transactions.

ART. XI. The official languages of all sittings are German, English and French. Very short remarks may be made in other languages provided some member is prepared to translate them into one of the official languages.

ART. XII. Sections are, as a rule, to be limited to twenty minutes ; discus- sional remarks to ten minutes.

ART. XIV. Students of medicine and other persons, gentlemen and ladies, who are not physicians but are interested in the proceedings of any particular

session, may be invited by the president of that session, or on application receive permission to attend as auditors.

There are to be no vice-presidents associated with the Congress, but each section is empowered to elect a limited number of honorary presidents and a secretary for each of the official languages.

In America, Drs. Barrett and Taft, in Great Britain, Mr. J. H. Mummers, M. R. C. S., etc., and Mr. W. Bowman Macleod, F. R. S. S., etc., have, on invitation by the committee, expressed their willingness to act in the capacity of honorary presidents.

W. D. MILLER.

Hemorrhages.

DR. MORGAN ADAMS, SARDIS, MISS.

IN the August number of ITEMS OF INTEREST, Dr. Henry S. Dill describes a case of "bleeding of the gums," and asks for information from the profession. Knowing that purpura is sometimes met in dental practice without being recognized as such, and believing that his case was purpura, I am constrained to point out some of its characteristics and pathognomonic signs, by which the close observer may be able to steer clear of the breakers and quicksands, for in its worst form, there is no disease more formidable.

I will not enter fully into the pathology of the disease, of which there are several varieties, as the subject is treated at length in medical literature.

Purpura Simplex is characterized by reddish or purplish hemorrhagic petechial spots which do not disappear under pressure. These spots are chiefly found on the legs, arms and breast, and sometimes on visible mucous surfaces. They are bright-red when they first appear, but assume a purplish hue in a few days. Sometimes there is no constitutional disturbance, but frequently the affection is accompanied with paleness of the countenance, and severe pains in the extremities.

In *purpura hemorrhagica*, the spots are of different sizes, scattered over the thighs, arms and trunk. They become ecchymosed, and in places form extravasation of the blood; hemorrhages from any part of the mucous membrane may occur, and especially from the gums, with great depression and anxiety. Van Harlengen says: "In severe cases of *purpura hemorrhagica*, hemorrhages may occur from the stomach and intestines, the bladder, the nose, and the hemorrhoidal veins. Gingival, nasal, intestinal and uterine hemorrhages are most common."

In *purpura scorbutica*, the gums are spongy and bleed freely, and the breath is fetid, with extreme debility. Quoting Van Harlengen again: "In mild cases of *purpura scorbutica*, the petechial spots may be the only pathognomonic sign. In many cases of scorbutic purpura, in fact most of them, the mucous membrane also shows certain symptoms. At first, the gums show a blue venous band running along their free edge, of a millimeter or so in width, while the interdental processes look almost like currants. In severe forms of the disease, the ecchymosed gums may be greatly tumefied, even rising so as to conceal the teeth and prevent mastication, being covered with fungous growths, and bleeding from the slightest touch. The teeth loosen and fall out, the breath is fetid, and in strumous persons, the sub-maxillary lymphatic glands may become inflamed. Hemorrhagic effusions take place into the mucous membrane of the mouth, particularly about the hard palate and velum, in the form either of petechia, or ecchymoses. Scorbutic peritonitis, separation of the epiphyses, dislocation of the callus of old fractures, and sometimes mental syncope may supervene. Death results from a breaking down at all points."

For the purpose in view, it is not deemed necessary to refer to other varieties of the disease. All the varieties resemble each other to some extent, and frequently two or more varieties are blended. In any variety, dental operations should not be attempted, except the removal of tartar from the teeth to prevent irritation of

the gums. The extraction of a tooth would be dangerous, except possibly, in simple purpura.

Fortunately, *purpura scorbutica* is not as often seen as formerly was, owing, no doubt, to our better knowledge of prophylaxis.

The first and second varieties are frequently met, and, in some cases, the dentist is the first to recognize it, for when the person suffers no inconvenience except bleeding of the gums, they are more likely to fall into the hands of a dentist than the physician. Under such circumstances, the dentist should make known to the patient his true condition, begin local treatment at once, and refer him to his physician for constitutional treatment. There should be a perfect understanding between the dentist and physician, and the joint treatment go on, as one without the other will avail nothing. The indications to be filled are to arrest the hemorrhages and remedy the weakness of the patient. The dentist who is well up in therapeutics will not find great difficulty in meeting the first indication; the second should be relegated to the physician.

I have no notes at hand of the following, but will give them as best I can from memory :

Henry L., of robust appearance, aged about 18, was brought to me about the year 1878, by his physician, who had had the boy under treatment for some time. The boy's teeth were perfect wrecks, and the gums were spongy and would bleed from the slightest touch. The interdental processes were enlarged and swollen so as to interfere with mastication. As the teeth were nearly all broken down, the physician requested me to extract them, which I declined to do; we then decided to remove the excrescence from the gums, as we did not recognize the disease. The operation produced a hemorrhage which was exceedingly hard to control—and the amount of blood was out of proportion to the slight operation. This aroused our suspicion. The next day we examined for the pathognomonic signs, which we found. The boy grew rapidly worse; and at times the hemorrhage from the mouth was so great that his life was in danger. All the known remedies were used without any marked impression, till after the lapse of about ten months, when he began to improve and finally recovered.

Mrs. L., aged about 35, apparently in good health, consulted me for bleeding of the gums. During the day-time, she was continually spitting blood which oozed from her gums, and during the night, while asleep, her mouth would be filled with blood. She had not noticed the petechial spots on her legs and breast which were found on examination; nor was there any constitutional disturbance except, as she expressed it, a tired feeling. Her teeth were cleansed of tartar, and local treatment begun. Her physician was consulted, and the case treated jointly. She was restored to health in about two weeks.

George M., aged about 25, applied to have some filling done. Pathognomonic signs of *purpura hemorrhagica* were present. I informed him of his condition, and postponed the operation. I cleansed his teeth of tartar, began local treatment, and advised him to consult his physician. This case was almost identical with the previous, and the treatment and results were the same.

In Using Amalgam, if the cavity is near the pulp, or very sensitive, I use gutta-percha stopping dissolved in chloroform. Having the amalgam ready, paint the cavity with the chlora-percha and introduce the filling before the varnish dries, for this reason: if the filling rests on a thin foundation of gutta-percha, there will be sensation when the plug is submitted to hard biting. When the amalgam is packed before the varnish is dry, all is forced out except that which penetrates the dentine, or is used to fill up the roughened surface of the cavity. At all events, the filling rests firmly on the dentine, and no circulation can go back of the filling. The amount remaining is so thin that shrinkage by loss of the solvent will amount to nothing.—*Dr. S. B. Palmer.*

The Face.

A. H. THOMPSON, DR., TOPEKA, KANSAS.

THE human face is said to be the mirror of the mind, because it reflects not only the static intelligence and refinement of the mind, but also betrays its transient emotions and passing impulses. It is of common observation that education, refined associations, and intellectual occupations, by elevating the mind, refine and spiritualize the face, in token of the refinement of the soul behind it. Thus the faces of persons with truly great minds—authors, artists, orators, statesmen, etc.—betray their greatness and are an attractive study to persons of sympathetic intelligence. The faces, for instance, of Cardinal Newman, Savanarola, Gladstone, Lincoln, are beautiful even in their homeliness, because of the great souls which have stamped them with the seal of superiority. In ordinary life we recognize a "good face" as betokening a good heart, and are instinctively drawn toward it. When such a one possesses a high intelligence also, we look for a perfect man,—one to trust and obey, for of such are they that lead men and move the world.

Of course there are exceptions to this rule. Refined faces are sometimes found among people of low intelligence and brutal tastes; but these are erratic and only indicate minds which by proper development amid favorable environments might have grown to something superior. They merely mean native superiority, latent and undeveloped. Or again, persons of education and refined associations sometimes have brutal faces; but these are only examples of misplaced education, the natural instincts not being of the high order that give the best results by training. But these are only exceptions to the general rule that a refined spiritual face indicates either inherited or cultivated superiority, or both together.

It has been observed that faces grow in refinement as the mind develops. This is especially noticeable in schools and colleges, when the coarse, animal features of the child unfold and bloom into refinement and beauty as the education progresses. The face refines as the mind develops. And the person devoted to an intellectual or spiritual life reflects that life in his face, which grows more and more refined and beautiful as he pursues his elevating occupation and develops therein. The best examples of this development are found, of course, in those in whom the natural bent of the mind is favorable to such influences. Where it is unfavorable, the best of influences make but little impression.

Heredity has much to do, of course, with facial beauty and refinement. Generations of cultured associations and education will naturally produce faces of innate refinement and spirituality. If the course of such a life in a family is uninterrupted, it will lead more and more to beauty and refinement of features. But it is, unfortunately, rarely uninterrupted. There is degeneration of some in nearly every generation, either through crossing with coarser stock, or lack of education or moral influences or cultured associations, or the demoralizing effects of dissipation or low pursuits. So it comes about that coarse and refined faces occur side by side in the best and in the worst families, so that we have a "black sheep," in the best of families, and a refined individual in an uneducated and coarse family and this is through hereditary causes, and in no case sporadic or accidental. Nature always works by law.

When we reflect that it is but a few generations since our ancestors were savages, and that the length of that savage life was incalculably long as compared with the brief span covered by the civilized and historical era,—during which countless impressions, physical and mental, were stored up and made permanent and transmissible,—it is small wonder that low and animal instincts and tastes are so paramount in our lives. It is these impulses, coming from that long and dreary savage life, that we have to combat continually as we strive after a higher life. It was during that period that the mind of man was evolved and differentiated from the mental organism of the mere brute. With the evolution of the mind the face

was developed and humanized, and as it receded from the animal face it approached a higher form, because it was the index of a soul. The face of the lowest savage man is little above that of animals in expression (except of superior mental power), because the higher mental qualities and emotions are yet dormant. As he emerges from savagery into barbarism he begins to feel somewhat for others, acknowledges that others have some rights, and from this stage the emotions are developed and his subsequent refinement and elevation are assured. The mind attained its full natural growth in savagery, and what it has advanced since then is merely by means of the artificial culture which has been superadded. So it is that the face has undergone but little change in historic ages, except in refinement by reason of the cultivation of the mind. If the child of any of the civilized races of man be reared in savagery without education, he would be but a savage yet.

With the birth of the emotions a great step forward was taken in the development of the face, for the emotions have much to do with facial beauty. A high intellectuality alone will not make a refined and beautiful face. Such a mind must be wedded to a warm heart to sanctify its mere strength. The noble impulses of great minds come from good hearts that prompt them to say and do great things for mankind. Lincoln's great deeds and sayings were due to his goodness of heart more than to strength of mind. Napoleon was great in generalship, and by the brutal strength of his mind he plowed his way through men and left death and misery in his path. Being heartless and selfish, the world despises him as a man and scarcely cares to admire his genius. With the greatest men of the world, as well as in ordinary life, it is the man who is kindest and best that has the most influence with his fellows. The growth of the good and elevating emotions has a refining effect on the face and measurably atones for the absence of education or mental strength, which sometimes weakens a face. Good emotions are, in fact, the main factors of spiritual beauty; but as the animal selfishness which we have inherited from our savage ancestors is yet the mainspring of most of our actions, it is little wonder that there are few faces that are beautified by this reflected unselfishness.

The struggle for existence in our selfish commercial life is quite as fierce as in the days of the mere physical struggles of our ancestors: the fittest in physical prowess survived then, and the fittest in commercial shrewdness survive now. There is the difference, however, that the unfit are cared for to some extent by the more fortunate in our day, especially when intellectually or spiritually superior. But the financial conflict and the grinding care this conflict brings on all classes, weighs down the minds of men and furrows the face with lines. The daily anxiety about the means of living does more to destroy facial beauty than grief or suffering. It springs from and fosters selfishness and misanthropy, and crowds out higher thoughts and better emotions. It is this care and anxiety that destroys all traces of beauty, either natural or acquired, in ordinary faces. Surely civilization has done little for the struggling masses;—better the communism of barbarism than this soul-destroying conflict and anxiety!

And yet there are some beautiful and spiritual faces to-day,—the reflection of lofty minds and souls on which the sordid cares and anxieties and selfishness of life seem to have had little effect. They are such as have been saved by circumstances from toil and anxiety and are thereby enabled to give their thoughts to lofty themes, or those who by temperament are oblivious to care and carry the burdens of life lightly, or of those who by strength of mind ignore the petty things of life and live in a world of their own; or, more rarely, a face is illuminated by a soul lit by divine fires, and tells of a spirit not of our poor, common humanity. But the faces worth looking at and analyzing occur as rare oases in the desert of mediocrity around us, and serve but to redeem the mass from total condemnation.—*Cosmos*.

What is the difference between a genius and a fool? Success.

The Origin of Life.

PROF. HUXLEY.

THE philosophers of antiquity, interrogated as to the cause of these phenomena, were provided with a ready and plausible answer. It did not enter their minds even to doubt that these low forms of life were generated in the matters in which they made their appearance. Lucretius, who had drunk deeper of the scientific spirit than any poet of ancient or modern times, except Goethe, intends to speak as a philosopher, rather than as a poet, when he writes that "with good reason the earth has gotten the name Mother, since all things are produced out of the earth. And many living creatures, even now, spring out of the earth, taking form by the rains and heat of the sun." The axiom of ancient science, "that the corruption of one thing is the birth of another," had its popular embodiment in the notion that a seed dies before the young plant springs from it; a belief so wide-spread and so fixt, that St. Paul appeals to it in one of the most splendid outbursts of his fervid eloquence :

"Thou fool, that which thou sowest is not quickened, except it die."

The proposition that life may, and does, proceed from that which has no life, then, was held alike by the philosophers, the poets, and the people, of the most enlightened nations eighteen hundred years ago; and it remained the accepted doctrine of Europe through the middle ages down even to the seventeenth century.

It is commonly counted among the many merits of our great countryman, Harvey, that he was the first to declare the opposition of fact to venerate authority in this, as in other subjects; but I can discover no justification for this wide-spread notion. After careful search through the "*Exercitationes de Generatione*," the most that appears clear to me is, that Harvey believed all animals and plants to spring from what he terms a "*primordium vegetale*," a phrase which may now-a-days be rendered "a vegetative germ;" and this, he says, is "*oviforme*," or "egg-like;" not, he is careful to add, that it necessarily has the shape of an egg, but because it has the constitution and nature of one. That this "*primordium oviforme*" must needs, in all cases, proceed from a living parent, is nowhere expressly maintained by Harvey, tho such an opinion may be thought to be implied in one or two passages; while, on the other hand, he does, more than once, use language which is consistent only with a full belief in spontaneous or equivocal generation. In fact, the main concern of Harvey's wonderful little treatise is not with generation, in the physiological sense, at all, but with development; and his great object is the establishment of the doctrine of epigenesis.

The first distinct enunciation of the hypothesis that all living substance has sprung from pre-existing living substance, came from a contemporary, tho a junior, of Harvey; a native of that country, fertile in men great in all departments of human activity, which was to intellectual Europe, in the sixteenth and seventeenth centuries, what Germany is in the nineteenth. It was in Italy, and from Italian teachers, that Harvey received the most important part of his scientific education. And it was a student trained in the same schools, Francesco Redi—a man of the widest knowledge and most versatile abilities, distinguished alike as scholar, poet, physician, and naturalist—who, just two hundred and two years ago, published his "*Esperienze intorno alla Generazione degl' Insetti*," and gave to the world his idea, the growth of which it is my purpose to trace. Redi's book went through five editions in twenty years; and the extreme simplicity of his experiments, and the clearness of his arguments, gained for his views, and for their consequences, almost universal acceptance.

SPONTANEOUS GENERATION.

Redi did not trouble himself much with speculative considerations, but attacked particular cases of what was supposed to be "spontaneous generation" experimentally. He says :

"Here are dead animals, or pieces of meat; I expose them to the air in hot weather, and in a few days they swarm with maggots. You tell me these are generated in the dead flesh; but if I put similar bodies, while quite fresh, into a jar, and tie some fine gauze over the top of the jar, not a maggot makes its appearance, while the dead substances, nevertheless, putrefy just the same way as before. It is obvious, therefore, that the maggots are not generated by the corruption of the meat; and that the cause of their formation must be a something which is kept away by the gauze. But gauze will not keep away aeriform bodies, or fluids. This something must, therefore, exist in the form of solid particles too big to get through the gauze. Nor is one long left in doubt what these solid particles are; for the blowflies, attracted by the odor of meat, swarm around the vessel and, urged by a powerful, but, in this case, misleading instinct, lay eggs, out of which maggots are immediately hatched on the gauze. The conclusion, therefore, is unavoidable: the maggots are not generated by the meat, but the eggs which give rise to them are brought through the air by flies."

These experiments seem almost childishly simple, and one wonders how it was that no one ever thought of them before. Simple as they are, however, they are worthy of the most careful study, for every piece of experimental work since done, in regard to this subject, has been shaped on the model furnished by the Italian philosopher. As the results of his experiments were the same, however varied the nature of the materials he used, it is not wonderful that there arose in Redi's mind a presumption, that in all such cases of seeming production of life from dead matter, the real explanation was the introduction of living germs from without into the dead matter. And thus the hypothesis that living matter always arises by the agency of pre-existing living matter, took definite shape; and had, henceforward, a right to be considered and a claim to be refuted, in each particular case, before the production of living matter in any other way could be admitted by careful reasoners. This hypothesis I call the hypothesis of *Biogenesis*; and I shall term the contrary doctrine—that living matter may be produced by matter that is not living—the hypothesis of *Abiogenesis*.

It is demonstrable that a fluid eminently fit for the development of the lowest forms of life, but which contains neither germs nor any protein compound, gives rise to living things in great abundance, if it is exposed to ordinary air; while no such development takes place if the air with which it is in contact is mechanically freed from the solid particles which ordinarily float in it, and which may be made visible by appropriate means.

It is demonstrable, that most of these particles are destructible by heat, and that some of them are germs, or living particles, capable of giving rise to the same forms of life as those which appear when the fluid is exposed to unpurified air.

It is demonstrable, that inoculation of the experimental fluid with a drop of liquid known to contain living particles gives rise to the same phenomena as exposure to unpurified air.

And it is further certain that these living particles are so minute that the assumption of their suspension in ordinary air presents not the slightest difficulty. On the contrary, considering their lightness, and the wide diffusion of the organisms which produce them, it is impossible to conceive that they should not be suspended in the atmosphere in myriads.

Thus, the evidence, direct and indirect, in favor of *Biogenesis* for all known forms of life must, I think, be admitted to be of great weight.

On the other side, the sole assertions worthy of attention are, that hermetically sealed fluids, which have been exposed to great and long-continued heat, have sometimes exhibited living forms of low organization when they have been opened.

The first reply that suggests itself is the probability that there must be some error about these experiments, because they are performed on an enormous scale

every day with quite contrary results. Meat, fruit, vegetables, the very materials of the most fermentable and putrescible infusions are preserved to the extent, I suppose I may say, of thousands of tons every year, by a method which is a mere application of Spallanzani's experiment,—they are preserved well boiled in a tin case provided with a small hole, and this hole is soldered up when all the air in the case has been replaced by steam. By this method they may be kept for years without putrefying, fermenting, or getting moldy. Now this is not because oxygen is excluded, inasmuch as it is now proved that free oxygen is not necessary for either fermentation or putrefaction. It is not because the tins are exhausted of air, for *Vibrio*nes and *Bacteria* live, as Pasteur has shown, without air or free oxygen. It is not because the boiled meats or vegetables are not putrescible or fermentable, as those who have had the misfortune to be in a ship supplied with unskilfully-closed tins well know. What is it, therefore, but the exclusion of germs? I think that Abiogenists are bound to answer this question before they ask us to consider new experiments of precisely the same order.

And, in the next place, if the results of the experiments I refer to are really trustworthy, it by no means follows that Abiogenesis has taken place. The resistance of living matter to heat is known to vary within considerable limits, and to depend, to some extent, on the chemical and physical qualities of the surrounding medium. But if, in the present state of science, the alternative is offered us: either germs can stand a greater heat than has been supposed—or the molecules of dead matter, for no valid or intelligible reason that is assigned, are able to re-arrange themselves into living bodies, exactly such as can be demonstrated to be frequently produced in another way, I cannot understand how choice can be, even for a moment, doubtful.

Tho I cannot express my conviction too strongly, I must carefully guard myself against the supposition that no such thing as life from dead matter has ever taken place, or ever will take place. With organic chemistry, molecular physics, and physiology yet in their infancy, and everyday making prodigious strides, I think it would be the height of presumption for any man to say that the conditions under which matter assumes the properties we call "vital" may not, some day, be artificially brought together. All I feel justified in affirming is, that I see no reason for believing that the feat has been performed.

And, looking back through the prodigious vista of the past, I find no record of the commencement of life, and therefore I am devoid of any means of forming a definite conclusion as to the conditions of its appearance. Belief, in the scientific sense of the word, is a serious thing, and needs strong foundations. To say, therefore, in the admitted absence of evidence, that I have any belief as to the mode in which the existing forms of life have originated, would be using words in a wrong sense. But expectation is permissible where belief is not; and if it were given me to look beyond the abyss of geologically recorded time, to the still more remote period when the earth was passing through physical and chemical conditions, which it can no more see again than a man can recall his infancy, I should expect to be a witness of the evolution of living protoplasm from not living matter. I should expect to see it appear under forms of great simplicity, endowed, like existing *Fungi*, with the power of determining the formation of new protoplasm from such substances as ammonium carbonates, oxalates, and tartrates, alkaline and earthy phosphates, and water, without the aid of light. That is the expectation to which analogical reasoning leads me; but I beg you to recollect that I have no right to call my opinion anything but an act of philosophical faith.

So much for the history of the progress of Redi's great doctrine of Biogenesis, which appears to me, with the limitations I have expressed, to be victorious along the whole line at the present day.

DEVELOPMENT OF SPECIES.

As regards the problem offered to us by Redi, whether Xenogenesis obtains side by side with Homogenesis ; that is, whether there exist not only the ordinary living things, giving rise to offspring which run through the same cycle as themselves, but also others, producing offspring which are of a totally different character from themselves,—the researches of two centuries have led to a different result. That the grubs found in galls are no product of the plants on which the galls grow, but are the result of the introduction of the eggs of insects into the substance of these plants, was made out by Vallisneri, Reaumur, and others, before the end of the first half of the eighteenth century. The tapeworms, bladder-worms, and flukes continued to be a stronghold of the advocates of Xenogenesis for a much longer period. Indeed, it is only within the last thirty years, that the splendid patience of von Siebold, Van Beneden, Leuckart, Kuchenmeister, and other helminthologists, has succeeded in tracing every such parasite, often through the strangest wanderings and metamorphoses, to an egg derived from a parent, actually or potentially like itself ; and the tendency of inquiries elsewhere has all been in the same direction. A plant may throw off bulbs, but these, sooner or later, give rise to seeds or spores, which develop into the original form. A polype may give rise to meduse, or a pluteus to an echinoderm ; but the meduse and the echinoderm give rise to eggs which produce polypes or plutei, and they are therefore only stages in the cycle of life of the species.

But if we turn to pathology it offers us some remarkable approximations to true Xenogenesis.

As I have already mentioned, it has been known since the time of Vallisneri and of Reaumur, that galls in plants and tumors in cattle are caused by insects, which lay their eggs in those parts of the animal or vegetable frame of which these morbid structures are outgrowths. Again, it is a familiar experience to everybody that mere pressure on the skin will give rise to a corn. Now, the gall, the tumor, and the corn, are parts of the living body, which have become, to a certain degree, independent and distinct organisms. Under the influence of favorable external conditions, elements of the body, which should have developed in proper subordination to its general plan, set up for themselves, and apply the nourishment which they receive to their own purposes.

From such innocent productions as corns and warts there are all gradations, to the serious tumors which, by their mere size and the mechanical obstruction they cause, destroy the organism out of which they are developed ; while, finally, in those terrible structures known as cancers, the abnormal growth has acquired powers of reproduction and multiplication, and is only morphologically distinguishable from the parasitic worm, the life of which is closely bound up with of the infested organism.

If there were a kind of diseased structure, the histological elements of which were capable of maintaining a separate and independent existence out of the body, it seems to me the shadowy boundary between morbid growth and Xenogenesis or the result of a modification of tissue, would be effaced. And I am inclined to think the progress of discovery has almost brought us to this point already.—*Medical Press.*

Pyorrhea Alveolaris.—This is not a constitutional disease from the commencement ; it starts from irritation, usually induced from secretions of tartar ; but from neglect and uncleanness, the secretions may become so vitiated as to induce "septicoma." A proof that it is not constitutional, extract the teeth, and the gums get well without treatment. Treatment : Remove all the tartar, syringe the pockets with any astringent. Then cauterize with any escharotic, so as to produce an eschar, which should remain till granulation takes place. The teeth may be so loose that, for a time they may need support, and protection from use.—*Dr. Sol. Horine in Archives.*

The Disputes Between the Editors of the Dental Journals.

DR. J. A. ROBINSON, IN DENTAL REGISTER.

THERE were three boys of us in a small New England home whose names were Frank, Jerie and Bill; sometimes, in doing the chores of the family, we had little bickerings and disputes about the work, as to which should bring in the wood, or draw the water, or run to the store on some little errand, or who had done the most work. At such times mother, who was a very practical woman, would make us all sit down on little crickets (we had no little chairs) and repeat aloud and in unison after her, from Dr. Watts' Hymns for Infant Minds, this verse:

"The wise will let his anger cool, at least before 'tis night,
But in the bosom of the fool, it burns till morning light."

and then say "Now, boys, go to your work and let me hear no more noise."

The three dental journals, the *Cosmos*, the oldest; the *ITEMS OF INTEREST*, the next oldest, and the *International*, which is the youngest, reminds us of that family of boys in the disputes it has in its work in the dental profession.

The three journals are doing good work, and each one is trying to realize its ideal; they all give us facts of real value because they express great and fruitful truths.

Suppose the *ITEMS OF INTEREST* does copy articles from other journals without giving credit for them, as is charged;* he only sows the ideas broadcast before the brothers, and gives them away for one dollar or gives them free; and they enlighten some poor fellow that the other journals do not reach, for the reason that many of the other journals publish so many heavy articles that are above the comprehension of the average dentist of to-day; articles that the average dentist is not prepared to read.

Many a practical operator who understands the therapeutics of dentistry, and is well up in mechanics, in practical, prosthetic and operative dentistry, does not care for histology and would not read it if placed before him all his days, as he is within limitations that he can never surmount. He is limited by birth and education and endowments; he is like the string of the harp that is tied at both ends, and the distance and tension will not allow of a higher or lower sound, and yet he is a useful and faithful brother and good citizen, and the sound he makes is necessary to the full and perfect harmony of the music, and for such a person to attempt anything more, he would accomplish less. There is always a certain class of would-be scholars who do nothing but criticize every scheme that looks to the general elevation of the masses, and who, with all their learning, do less for the cause of humanity than those with less learning and more wisdom. There are only a few persons in the professions or the sciences who do advanced work, and those persons are generally attached to colleges or have fixed incomes. There has never been but one Darwin or Tyndale, never but one Newton or Huxley. In this hurrying world of living-getting it is impossible; besides, if a person is in advance of the crowd, he is an enthusiast and is looked on as a crank or a fool. We do not wish to be understood as disparaging education. The educated class are the generals of the army, but it takes the under officers and common soldiers to fight the battles and win the victories. Let us be thankful there is one editor that is taking special pains to drill the rank and file, and gradually develop stalwart officers.

The last verse of Dr. Watts' hymn our mother made us repeat runs like this:

"Pardon, O Lord, our childish rage, our wicked thoughts remove;
So as we grow to riper age our hearts may grow in love."

Perhaps our brother editors had better learn and repeat Dr. Watts' hymn.

* There have been a few such mistakes, but we try hard to avoid them, and to give all their due.—ED. *ITEMS*.

Neatness and Manners. *

BY F. A. DAVENPORT, NORTH ADAMS, MASS.

ONE of the most common faults in the character of a dentist, is a want of neatness in his office. No operator on the teeth can hope to please and retain his patients, especially the ladies, unless a strict regard is paid to the neatness of his office, his instruments, and his person.

Great watchfulness and care are constantly required, where many are coming and going, to keep everything in as neat and tasty a manner as possible.

His rooms, in every respect, should be furnished neatly, and with proper regard to the comfort and entertainment of friends, who often accompany the patient, and remain while the operations are being performed.

Any ostentatious display of instruments, however beautiful, is in exceeding bad taste, and will often offend those whom we most desire to please. Great care should be paid to the proper cleansing of instruments, after an operation has been performed for one patient, before commencing on another. In this way, the instruments will not only be kept clean, but free from rust; and if proper order is maintained, there will be no confusion, in the midst of an operation, to find the one needed.

Neatness of person is also absolutely necessary, as well as cleanliness in his office, and in the different articles used in his practice. As the apparel often bespeaks the man, and as the business of the dentist is such that he can always be dressed in a neat and respectable manner, a *want* of neatness in this particular denotes a want of that system, which every dentist must possess, if he expects to arrive at any degree of eminence in his profession.

Proper order in everything pertaining to himself and office will always be appreciated by the better class of his customers; for those who employ him mostly—who pay the greatest attention to the preservation of their own teeth—are generally from the most elegant, refined, and highly cultivated class of society; it is therefore highly important that we exert ourselves to please this class of our patrons. But however neat and elegant the dentist's rooms and person may be—however dignified in his deportment, and however exemplary in his life and character—he must not expect to succeed in his profession unless he is pleasing and accomplished in his manners. To none is an agreeable manner of more importance than to him whose duty it is to minister to the personal wants of his fellow men—to the dentist especially are these qualities of the highest importance—indeed, it may almost be said that without them he will be sure to fail in his profession. The educated and gentlemanly man, in his profession, will draw around him patients of the same class. We may see this exemplified in the practice of almost every dentist; his patients, with perhaps few exceptions, resembling him in tastes, feelings, and manners. On the other hand, he who is inattentive to the little courtesies and civilities of life; who has not a modest self-composure, united to gentle and agreeable manners; who does not study to please in little things, but is blunt, impatient, and disagreeable in his office, with a careless and slovenly exterior, with unclean hands and nails, a distorted mouth, with blackened and decayed teeth;—in short, if he is addicted to that—the *filthiest* of all habits, the use of tobacco—he never need look for success in his profession. Nor is it alone in his office that the dentist should strive to please; but in all the social relations of his life his personal deportment should always be such as to command the highest respect and esteem from those with whom he comes in contact. He should always be content to let his works praise him, which they surely will do, if they are good, for whatever real merit we have, other people will discover.

Patience is also an indispensable virtue to the dentist. There are many occasions in his practice when it will require great self-control to preserve his

* Tho this was written sometime ago it is timely now —ED. ITEMS.

patience and equanimity of temper. This is particularly so when called on to operate for children who have never been controlled at home, and with timid, hesitating persons, who have not sufficient firmness of nerve to submit to necessary operations. In these cases, the dentist will need all his eloquence and persuasions to encourage the timid and sustain the weak and faltering. He must be patient with the hesitating; gentle and persuasive with the young and timid; long-suffering with the irritable; cool and deliberate with the impatient; and at all times exhibit a kind, encouraging sympathy for the sufferings of his patients.

Kind words and pleasing manners, under such circumstances, will do much to gain their confidence and affection.

Finally, he should be a man in every particular worthy of imitation and example.—*Cosmos*.

Some Remarks on Dyspepsia and Its Treatment.

EDWIN CARSON, M. D., SAN DIEGO, CAL.

DOUBTLESS of all the maladies that afflict the human family dyspepsia is the most common and annoying, without endangering the life of the sufferer.* Probably no two terms in the nosology of medicine are so interchangeably used as dyspepsia and indigestion, and wishing to settle the individuality of each word, we turn to the authorities, and find that dyspepsia means "difficult digestion," and indigestion "disordered digestion." In both conditions we find the digestive apparatus out of gear, and conclude that there is some distinction without much difference. By most writers the terms are used synonymously, but by dyspepsia we mean a chronic functional gastric disorder, and indigestion is applied to a temporary attack of derangement of the stomach. The American people are supposed by their European cousins to enjoy almost a complete monopoly of this disorder, and they attribute as causes,—haste in eating, imperfect mastication, and deficiency in the knowledge of the art of cookery. From the widespread prevalence of the affection among us we are constrained to plead guilty to the accusations. But since the illuminating rays shed by the light of modern chemistry have made more transparent the subject of dietetics, it is to be hoped that we will be able to throw off the stigma of a nation of dyspeptics, and on the other hand become noted for our robust stomachs.

The old Romans were gluttons and epicures, and in their day food was a subject left entirely to the palate and gastric capacity, but now it rests on a rational, scientific basis. When Charles V, the most notorious gourmand of his day, was ruler of Germany, nothing was known of the dynamic value of albuminoids, carbohydrates and fats. History records that the miseries of the human race began by yielding to a temptation to eat, and history is still repeating itself, for many of the evils of humanity are directly connected with eating. Atonic dyspepsia exists as a disease *per se*, and also as a symptom of many organic diseases of the stomach. With the latter condition we shall have little to do, dealing mostly with the subject as a primary trouble. All states of nervous depression predispose to some one of the many varieties of dyspepsia. The causes that contribute to this end are numerous and various, but its symptoms are even more so, and may be arranged under two heads: 1st, those referable to the organ itself; and, 2d, those which are consecutive or sympathetic. To the former class belong gastralgia, acidity, pyrosis, accumulations and eructations of gas, a feeling of weight and uneasiness in the epigastrium, and to the latter class belongs a symptomatology that is only limited by the length and breadth of the nervous system. Of all the reflex conditions that afflict the victims of dyspepsia probably mental confusion and accompanying headache are the most annoying and harassing. Accelerated and irregular action of the heart not infrequently prompt the patient to seek medical aid for supposed heart disease, and when he is told that his cardiac trouble is due

* And as self-afflicted and blameworthy.—ED. ITEMS.

to a disturbed stomach he often congratulates himself that he is relieved of the apprehension of an impending sudden death. General malaise and persistent ennui industriously assist in rendering miserable the life of the unhappy dyspeptic. The poet Cowper was evidently a member of this class and in good standing, for he laconically expressed himself in this wise: "On rising in the morning I feel like a toad out of the grave, covered with the ooze and slime of melancholy." A noted divine, the Rev. Dr. Talmage, said not long since that "It is all but impossible for a man with bad digestion to be a Christian." So it would seem that more than a grain of allowance ought to be made for the irritable and irascible possessor of a rebellious stomach.

In olden times it is said the cooks cooked by day and devised new dishes by night, and the high-priced *chefs* of the present day continue to tempt the palate with the most extravagantly and ingeniously contrived products of the art of cuisine. The pleasures of the table have lured many healthy stomachs from the haven of comfort and feeling of well being and made shipwreck of them upon the savory shores of steaming and mysterious viands. Thus I think it may be affirmed that injudicious and riotous gastric indulgences are accountable for a large majority of the existing cases of indigestion and dyspepsia. The dyspeptic we will always have with us, and we can relieve him of many of his miseries by a thorough knowledge of the therapeutics of dietetics.—*Cal. Practitioner*.

Root Filling.

REPORT OF THE INTERNATIONAL DENTAL CONGRESS BY THE COSMOS.

GEORGE CUNNINGHAM, D.M.D., L.D.S., Cambridge, England, says:

BY immediate treatment is meant that method by which the roots of pulpless or abscessed teeth are treated and filled at one sitting; the object being to save time both to the patient and the operator, while obtaining as good results. The nerve-drill and rapid means for modifying the aseptic condition of the roots is advocated.

For some years, he has used this method on every patient who presented a pulpless tooth, without regard to the local or systemic condition of the patient. The result has been that the majority of teeth or roots for which extraction was the usual remedy are thus saved. The practice is as follows:

1. A free and direct access to the roots must be obtained as far as possible, excavating boldly the crown in the requisite direction.
2. To apply the rubber-dam in every case where its adjustment is possible.
3. To ream out the root-canals freely with engine nerve-drills as far toward the apex as safety will permit.
4. Where there is evidence of putrid dentine he makes every effort to remove it, but canals into which a broach cannot be passed are left unfilled. For the disinfection of the roots he uses a one per cent. solution of arsenious acid, or of mercuric chloride, in glycerine. Where the whole infected dentine is not excised employ chloroform as an effective cleanser.

5. For filling the roots he almost invariably uses oxychloride of zinc on shreds of cotton wrapt on a fine plain nerve-broach.

6. The crown he fills as desired, either with gold or amalgam. If only the roots remain, he defers the operation of crowning to a later yet not distant sitting.

From 1882 to 1887 the author treated one hundred and twenty-two cases of pulpless teeth by the "dressing method," which obliges the patient to come several times to the operator, and five hundred and twelve cases by the immediate method. Out of the one hundred and twenty-two first, thirty-six returned complaining of slight periostitis, thirty-two for swelling or abscess, six for extraction. Out of the five hundred and twelve, only three returned for slight periostitis, five for swelling or abscess, and three for extraction.

The author finds that when a moist condition of the pulp-canal contents is associated with pus formation, the pericementum is much more liable to be affected. Pericementitis is four times as frequent in cases where the pulp contents are moist as compared to those in which the contents are dry; he also finds that root-canals containing dry contents are less liable to subsequent periostitis than moist roots. Out of sixty teeth treated, fifteen had been affected previously with pericementitis; in twelve cases the local inflammation continued from one to ten days. In the forty-five remaining cases, which had not been inflamed previous to the operation, only four gave rise to pericementitis. Of these sixty teeth, in forty-one cases a permanent filling was at once inserted, the others received a temporary filling on account of the lack of time to do the permanent operation.

The last statistical table of the author gives his record of the immediate treatment of one hundred and fifteen cases of pulpless teeth. Out of these one hundred and fifteen cases, twenty-six had had a pericementitis previous to the operation; eighty-nine had never been inflamed; seven had a post-operative periosteal inflammation, and eighty-one permanent crown-fillings were inserted at the first and only sitting.

The following conclusions were arrived at:

Under the immediate method there were fewer extractions and failures. There were fewer subsequent attacks accompanied by swellings and acute abscess, and therefore the immediate treatment was attended with less pain. It requires also much less time, and is an immense saving both to the patient and operator, as the average time of treatment of such a tooth is considerably under one hour. One is enabled to save many more teeth which would otherwise be condemned.

That the operative method, and not the medicine, is really the cause of the success. All such operations ought to be conducted with antiseptic precautions.

DR. OSCAR AMOEDO, from Havana, divides dead teeth into three classes: 1, those having only a partially dead pulp; 2, those which have been a long time devitalized; 3, those with alveolar fistula.

1. For the treatment of a tooth in which part of the pulp is still alive the rubber-dam is applied, the cavity is well cleaned and antiseptically washed with a tepid solution of $\frac{1}{1000}$ of permanganate of potassium; the cavity is then filled with gutta-percha, a small opening being left in communication with the pulp-chamber or pulp-canal, where a hypodermic needle can be introduced and one or two drops of a fifteen per cent solution of cocaine forcibly injected; three or four minutes later the remaining part of the pulp can be extracted painlessly. The cavity is washed with cold sterilized water, carbolic acid is passed into the roots, and they are filled with iodoformed chloro-percha.

2. In teeth in which the pulp has been dead for a long time, a large and direct communication must be established with the roots to be treated. The roots are then thoroughly cleansed with the ordinary broaches. The author recommends the use of nerve-canal drills to enlarge the pulp canals. Care is necessary not to force any putrid matter through the apex.

When once enlarged, the canals must be washed with a solution of permanganate of potassium, carbolic acid, or peroxide of hydrogen, introduced into the roots with a very small canula capable of going as near the end of the root as possible. When all the canals are clean they are touched with $\frac{1}{300}$ of bichloride of mercury, or with chloroform, or, again, with Dr. M. Evan's sterilizer. The filling of the canal is done, as in the preceding class, with iodoformed chloro-percha.

3. In the treatment of dead teeth with alveolar fistule, the tooth and root are well cleansed; the cavity is filled with gutta-percha, a small opening being left in the center to permit the canula of the syringe to approach the pulp-canals, and a tepid solution of permanganate of potassium is forcibly thrown through the root and fistulous opening. The canal is then thoroughly filled with shreds of cotton dip in the following preparation: iodoform, Peruvian balsam, equal quantities;

glycerine, q. s. Soft wax is then placed in the cavity over this impregnated cotton, and thoroughly compressed, so that the preparation may be forced to pass out by apex into the fistulous tract. The wax is then replaced by cement, and the gums are painted with concentrated tincture of iodine.

Out of a series of four hundred teeth the author claims to have lost only one tooth, and this was lost by an inflammation started by the removal of an amalgam filling; in another case, an abscess not healing, the author resorted to re-implantation.

Reflex Nervous Action From Dental Lesion. A Case in Practice.

PROF. I. C. INGERSOLL, KEOKUK, IOWA.

THERE is so much vagueness in the minds of most persons concerning neuralgia and reflex nerve action, and it is so difficult of explanation by mere words, that the following case of recent occurrence in my practice, will be found illustrative and instructive. In some respects it is the most remarkable case that has ever come to my notice.

The patient was a lady of about forty years of age, unmarried, of a nervous organization, who for seven years past had been engaged in missionary work on one of the islands of the Pacific Ocean. Tho suffering many inconveniences, discomforts and discouragements, she was ambitious and made her work a success. But in the midst of it her health was declining—slowly, but very perceptibly; not however sufficiently to prostrate her. She kept on with her work, tho her appetite had failed, and food was taken without relish—her head and face were often troubled by wandering pains, sometimes sharp and severe, which latterly had become seated in her shoulders and spine. Her nights were tortured by wakefulness, restlessness and frightful dreams. She knew very little of the recuperation of sleep. In fact there was *no* recuperation, but a daily, weekly and monthly decline, and she seemed to be traveling the road to certain death.

Her friends became alarmed at the thought that death might, within a few months, release her from her earthly work, unless she could get some speedy relief. She had become nervously prostrated and greatly emaciated. Her face was bloodless and pallid. Her physician's efforts had proved a failure in toning up the system. With his advice and the urgency of her friends, she decided to leave the island and return to the States.

She found her way to a sanitarium, in Hamilton, Ill., across the river from Keokuk, where many chronic invalids had been treated with great success. The change from work to rest gave her some hope; but with no appetite for food, poor digestion, little or no sleep, her chances for recovery seemed very slim and a long way off. But her physician, Dr. Ringland, who is accustomed to look into the mouths of his patients, not simply to see their tongue, but to examine their teeth as organs belonging to the digestive system, discovered that her mouth needed some dental work. She at length called his attention to an aching tooth—an inferior cuspid. He advised her to go with him over the river and call on me.

She came into my office, aided by the helping hand of her physician—a dark-haired, tall, slender, delicate and pale looking woman—and seated herself in a manner to indicate that strength, hope and courage were well nigh gone.

With a little quiet talk to overcome her nervous dread, and a little urgency on the part of her physician and myself, we got her to measure feeble steps toward the operating room. When she looked in and saw the chair, she shrunk back and turned the wild glare of her eyes toward the corners of the room in search for some possible escape. I assured her I would do nothing by force, but only with her fullest consent—that I would make the examination without inflicting the slightest pain—would only employ a mouth-glass and the touch of my finger—with this assurance she crept slowly into the chair, trembling like an aspen leaf.

I discovered that on the upper jaw she had a plate of artificial teeth—the natural cuspids only remaining. She called my attention immediately to the aching cuspid in the lower jaw, which was filled with cotton. About one-third of the crown had been removed by decay; also a like proportion of the adjoining incisor. On examination I found no exposure of the nerve in either tooth, and no originating cause of pain. I so informed her. Glancing back I saw the roots of the second bicuspid, and the first and second molars, surrounded by a glistening red gum, and encircled with pus. On touch with my finger I found all, except one, loose. Looking across to the other side of the mouth, I saw the left cuspid root with a gold screw projecting from its central canal, telling the story of past dental work.

Through a gap in the gum on the labial side, I saw a free discharge of thin, watery pus, with all the signs of caries of the alveolar process. Back on the same side I saw also three ragged roots with their rosettes of tumefied gum.

The case was now plain. This condition was of long continuance. I informed the lady that she was living on pus—eating, drinking, breathing poison—that it was not overwork that was prostrating and killing her, but pus—that she could never regain her health by any treatment that did not include the removal of these roots of teeth, and all causes of nerve irritation, and the restoration of her entire mouth to a healthy condition.

She was persuaded to believe that the present was the opportune time for having it done. With the application of a solution of cocaine in campho-phenique (1 gr. to 10 drops), as a local anesthetic, I succeeded in removing all the roots from the lower jaw without serious pain—her nervous excitement meanwhile acting anesthetically. Then after removing heavy deposits of calculus from the lower incisors, I dismissed my patient to return in one week; hoping for, and expecting the best results.

When she returned I noticed an improvement in the expression of countenance, less anxiety and wildness in her eye, and a firmer step. I asked her how she had been since the operation on her mouth.

She said: "I am better—have been able to sleep a little, but I have no appetite and night after night I still toss on my bed from side to side, tortured by these distressing pains in my shoulders and spine."

I said to her: "I want now to look at your upper jaw." She had been taxed so severely in the operation on her lower jaw, I did not deem it advisable to continue my operations till another sitting; and as my attention had not been called by her to any trouble connected with the upper jaw, and furthermore, that jaw being supplied with artificial teeth, I did not deem investigation essential in the first operation. On removing the plate, however, I discovered that the upper jaw was in a worse condition, if possible, than the lower.

I remarked to her: "Here is cause sufficient to account for all the pain you experience in your shoulders and spine, for at the base of the brain the facial nerves connect with the spinal nerves, and reflex action takes place from that point as a common center."

Her courage now began to fail her. But having already experienced some relief from the operation on the lower jaw, without many urgent protests, she submitted to the operation on the upper jaw.

I removed seven loose roots, all in the same condition as the roots found in the lower jaw. But the condition was rendered far worse by their being covered by a plate of artificial teeth. The plate, resting on the protruding roots, could not be pressed on or moved without causing serious irritation.

This operation ended, I dismissed my patient for rest, with the request that she call again in a week. She did not return according to appointment. Seeing her physician on the street, after about ten days, I inquired to learn her condition. "Why," said he, "She has been asleep almost ever since she was at your office—day and night. She slept for one full week, lacking a few hours. We could rouse

her to take a little nourishment, and her daily bath ; but she would go to sleep while eating—go to sleep right in the bath tub. As I found her pulse all right, and her respiration good, I did not feel alarmed, nor try to keep her awake. All she asked was to be let alone." I asked : "How has she been since she woke from her long sleep?" "Better, and looks like another woman," said he. I asked him to bring her over again, as soon as she had gained a little strength, that I might complete the cleansing of her teeth, and fill a few cavities of decay.

She came in about three weeks. She walked up the stairs with a firm step, and entering my room with a cheerful countenance, and laughing heartily, as tho something extremely comical was stirring her thots. I asked her to give an account of herself. She said : "I slept because I wanted to sleep, and did not want anything else. It was such a comfort to sleep! All the pain has gone from my shoulders and spine, and I have not had a twinge of pain in my face or jaws since you took out my teeth."

She had recovered her appetite, the glare of her eye was gone, color had come to her face, all the lines of pain had disappeared, and she looked as tho she had gained a pound a day since I last saw her. She was then planning to leave the sanitarium, considering herself a well woman.

When I first removed that plate of artificial teeth and saw the condition of her mouth, and thot of the years of suffering, and the destruction of bodily health that were the direct result, I could not help exclaiming with some vehemence : "What fool of a dentist treated you so cruelly? He has almost murdered you!"

The explanation of her case, and its singular denouement, is simple. Being of a nervo-sanguine temperament, the lady had great vitality and strong recuperative power. When the condition of the mucous membrane of the mouth had extended to the stomach, and impaired its tone and functions, and when the irritation of the dental nerves, at first sight, had extended to the base of the brain and thence to more remote parts, vital organs were seriously involved, and were gradually giving way. When the nervous irritation was removed by the operations on her mouth, her vitality was so great as to produce an immediate reaction. She was in a state of great nervous exhaustion ; and as sleep is nature's great restorer of exhausted nerves, in this case it became nature's sovereign remedy.—*Archives*.

Dentistry a Distinct Profession.—For myself I have no ambition to be ranked as a medical man practicing a specialty. In my judgment dentistry cannot properly be considered as a specialty of medicine. It is true, it is a branch of the healing art, but it has not grown out of medicine ; it forms no part of the curriculum of medical schools ; it has received no aid from medicine as a profession, tho individual physicians have rendered it great service. In fact, it has been so ignored by the medical profession that few of them know how to perform the simplest operations.

Dentistry has developed and grown up outside of medicine and independent of it. It has built its own colleges. It has its own text-books, its own literature, its own periodicals, its own societies and associations, and its own appliances. In its genesis and history no closer relationship can be traced than as an adjunct of medicine it covers an important field in the healing art for which medicine had failed to make provision.

Far distant be the day when our societies, our associations, our clinics, shall be abandoned that we may form a section in a medical association. We have done well in the past and may do better in the future. We have made great and rapid progress in the past, and if true and diligent the future holds in store for us still greater advances.

Let us be satisfied to be dentists, and at the same time full of ambition to be skilful dentists, intelligent dentists, scientific dentists, honorable dentists, and the public will not be slow to accord to us all proper respect and all needful social recognition.—*Dr. J. B. Willmott in Dominion Dental Journal*.

Artificial Dentures.

BY W. H. ATKINSON, M. D.

THE making of artificial dentures has usually been denominated "mechanical dentistry," in contradistinction to "surgical dentistry," or extracting and filling teeth. To this term I object as inadequate and damaging to the standing and interests of the profession, as it presupposes that no knowledge other than abstract mechanics, or merely manual skill, is necessary to the production of highest workmanship in the manufactures denominated artificial dentures, which is by no means the case if we include the necessary preparation of the dental arches for their reception. Each case involves the necessity of the possession of the requisite knowledge and skill to diagnose and perform the operations appropriate to this end.

Here and elsewhere we feel the need of a correct and well-digested "codes of principles and practice" on which to lean for assistance to make up correct judgment. In preparing a mouth, the majority of those who insert artificial dentures prefer extraction where extraction is not a necessity, while a few at the very head of our useful profession and art advocate the restoration to a healthy and useful condition of all the natural organs remaining in the mouth, and the insertion of only as many substitutes as are necessary to complete the normal range. The advocates of wholesale extraction are, to a man, indifferent as to the retention of the alveolar process, "especially as far as they are likely to absorb," doing more, as they say, in five minutes for the patient in this direction than nature can effect in six months of tedious suffering, in removing sharp spicule and fragments of the alveolar bodies.

Difference of opinion and practice grows out of—first, ignorance; second, inattention; third, tarrying in facts, instead of pushing on to the philosophy they indicate. All are seeking for the truth, but many have a blundering way of coming at it. And, that I may not seem to be but a grumbler, who sees the difficulties in our pathway and lacks perception or earnestness to obtain the desired goal, I will enter somewhat into the philosophy of the preparation of the arches by extracting, when this is deemed necessary, even at the risk of being possibly tedious to those who can anticipate all that any can say, and therefore sit in uneasiness during the circumlocution necessary to a distinct enunciation of both fact and philosophy. Extraction having been decided on, what are the advantages of retaining the processes?

Answer. The alveolar plates ought not to be removed or fractured beyond the level of the cancelous transverse process, if possible to prevent, because they form and limit the ridge on which to firmly fix the artificial piece, and also afford attachment to muscles and ligaments, that will be materially changed if those are lost by friction or absorption.

What reason is there for removing the internal and external free borders down to this line?

Answer. Simply because it is as yet impossible to prevent absorption to this point by our most judicious and prompt methods and means of treatment.

What are the objections to awaiting nature's removal of them thus far?

Answer. First, because she does it slowly, and by a very unpleasant method; second, because it delays the insertion of a denture that can be worn with comfort, because of the manner of exfoliation of these from their borders.

What is nature's method of removal?

Answer. Solution of the plate some distance from, and not at the free edge.

Why does this necessarily occur?

Answer. Because we must have the presence of a sufficiently perfect network of capillaries to supply a requisite quantity of blood, affording the adequate exudate to effect the solution of the lime-salts that harden the bone, which solution

frees all the ragged fragments from their connections with the body of the process. These are then dissolved by the acrid discharge from the parts which have died from the mutilation of the molecules of gum and denser parts of cartilage and bone, or become points of serious irritation, barely hanging to a slight attachment of soft parts, which usually call attention to them, resulting in their prompt removal, after which the points heal rapidly.

Is there any other objection of moment to awaiting the healing and absorption till the arches are completely rounded off to a graceful equality of contour and level?

Answer. Yes; there is the most potent reason against thus waiting in the atrophy of the muscles of mastication, deglutition and speech, all of which have to be redeveloped up to the normal standard of size and strength, after inserting the teeth of substitution.

If teeth of the proper size and length be inserted after absorption has been effected, without the use of a temporary set of teeth, the piece will look too full, and the lips will appear stretched and grinning for weeks or months, till the atrophied condition shall have been overcome by approximation to the natural uses of the muscles. Or, on the other hand, if we wish to avoid the inconvenience and the awkward appearances just cited, we must set smaller, shorter teeth than the conformation of the individual demands, to accommodate the shrunken jaws and lips, and thus perpetuate the expression of premature age consequent thereon. Artificial dentures are useful and ornamental in the ratio that they approximate the natural organs.

If the principles already indicated be apprehended, it will require no argument to induce each operator to carefully avoid fracture of the processes in extracting, and immediately peel off the free border of the loose gum down to a level with the transverse processes, taking an excising forceps, and cleanly and smoothly cutting away the thin margins down to the limit indicated above; then fold together the loose borders of the gum, and if there be any points of excess over just enough to make a smooth, regular line of union along the summit of the alveolar ridge, trim them off to a straight line with sharp and light scissors; now fold them down till they meet, after which insert a pledget of lint or cotton, or a small napkin immediately over the line of junction, requesting the patient to close firmly but gently on it. If there be no hemorrhagic tendency, the pledget or other appliance may be used dry, but if requisite it may be saturated with perchloride of iron, persulphate of iron, or any of the styptics in solution, and retained a few moments, till the lips of the wound are nicely glued together; after which remove all foreign matters from the mouth and proceed to take your impression.

Secure separation between the bone and the periosteum, always leaving the latter attached to the soft parts by the natural connections. It is not of so much moment to effect this at the very edge as it is at the point which we propose to excise the processes, for the reason that if we fold in an already organized periosteum, calcification of the entire ridge takes place much more rapidly, and also more perfectly, than if left to the slow metamorphosis from an exudate wept out for the purpose.

Is absorption limited to this line of action?

Answer. Only in the best constitutions and best habits, for even soundness of constitution is not proof against bad habits of life, which so potently effect nutrition. Unequal pressure, whether resultant upon imperfection of adaptation of the denture, or from persistence in the habit of biting and chewing in one locality of the dental arch, will incite absorption. Wherever the gum is thin it will be poorly nourished, and hence harden into a semi-cartilaginous state, or so encroach on the bone as to arrest the circulation in that, and cause it to absorb away, leaving but a leathery, yielding ridge, on which the denture must now depend for retention and resistance, neither of which is so complete as where the ridge is maintained in boldness of outline by a well-nourished and well-calcified bone. This condition is

frequently brought about by the inequality of adaptation resulting from the use of what are called "air-chambers," Many dentists of good reputation and much skill in adapting artificial dentures make this mistake, and in consequence have to reconstruct their work at intervals of one to five years, if they wish to maintain firmness of adaptation. So generally true is this, that it has become a prevailing doctrine among these men that the usefulness of artificial dentures does not average more than three to six years.

These results do not occur in the practice of those members of our body who do not resort to these "pets" and "pests" of dentist and patient. Probably exact equality of pressure all over the whole range on which the piece infringes will be most satisfactory and useful for the long run, but for immediate retention of upper plates *in situ* there is no doubt that at least an approximation to a vacuum facilitates adhesion. This form of "blind chamber" (as it is called), is a sort of compromise between excessive chambers on one hand and absolutely "no chamber" on the other. For the sake of peace on all sides, it may be well to use those "blind," "feather-edged," or "approximate" chambers, as they soon resolve themselves into equal and regular adaptation all over the arch, by inducing absorption in some places and deposit in others.

So much depends on the general health and local condition of patients for whom artificial dentures are required, that it is at least judicious not to promise too much. The dentist should rather moderate than excite the expectations of his patient as to the rapidity and facility of adapting and learning to use satisfactorily these substitutes for the natural organs. Not that we can overrate the advantages ultimately resulting from skilfully produced and intelligently used artificial dentures, but these qualities so seldom combine, that the per cent of really first-class work is woefully small, compared to the number of monstrosities unblushingly claiming to "rival the finest productions of nature's immaculate workmanship."

Let us first learn, my dear fellow-laborers, to appreciate these productions of nature, and my word for it, we will be able better to appreciate the attainment which enables any to even approximate such perfection.—*Cosmos*.

An Ideal Climate.

BY J. H. DAVISSON, M. D., LOS ANGELES, CAL.

AT the meeting of the American Medical Association at Newport, R. I., June, 1889, George E. Waring, Jr., the eminent sanitary engineer, in an address before the section on State Medicine, said: "Dr. Billings, in his work for the Tenth Census of the United States, estimates the death rate of the whole country at about 18 per 1,000. It cannot be questioned that proper regulation of the universal conditions of human life throughout the whole country would reduce this rate to 12 per 1,000; saving every year, on a basis of the present population, not fewer than 365,000 lives, which are now sacrificed to filth, with its attendant contamination of the soil on which we live, of the air we breathe, of the food we eat, and of the water we drink."

Appropos to the above, permit me to state that in Southern California we can discount the highest claims of the best sanitation. Los Angeles, with a cosmopolitan population of 80,000, and without a complete system of sewers, has an annual death rate of less than 9 per 1,000. In these figures are included all the deaths of invalids brought here from all parts of the civilized world, many of whom are in a dying condition on their arrival. This very low death rate also includes the deaths at the Los Angeles County Hospital (located in the city), which is in fact an interstate and international hospital as well. When by the aid of the sanitarian and the expenditure of less money for a perfect sanitary sewer system than is required by other cities less favored by nature, we may expect the realization of even a lower mortality in this delightful aseptic climate. No doubt, it is bound to be the great sanitarian region of the continent.

Pyorrhea Alveolaris.

DR. WM. CONRAD, ST. LOUIS, MO.

TILL the past year I believed treatment seldom successful. My present belief is that the disease is amenable to treatment where there is sufficient pericementum to assist nature in forming a new union between root and surrounding tissue ; also, that new process will be deposited as high up on the root as the membrane remains healthy. Without the pericementum, the tooth can be retained in position only by mechanical means, and even then the tooth will be thrown off as a foreign body.

There is hardly a dentist who has not found cases he considered too far advanced to be permanently benefited. In these extreme cases there is always a tendency for the parts to return to the diseased condition, and it is this tendency, in serious cases, which has been the most formidable obstacle we have had to contend with in practice ; consequently, the care of the mouth by the patient must be insisted on and maintained at all times, or the labor spent on the treatment will be useless, and the disease progress to a final loss of all affected teeth. The patient should be instructed, as the first duty of the dentist is to see that this is carried out. In the meantime, remove all foreign matter too difficult for the patient to remove with the brush, and with simple medication assist nature in her efforts to restore the gums to their normal condition. Dilute sulphuric acid I find of value in stimulating to a healthy action, and in clearing up the tendency to deposits.

After the teeth have become somewhat fixt, and they will always become so, remove with delicate manipulations all deposits on the roots. I do not believe in the heroic surgery so often recommended, when you have a typical case of pyorrhea alveolaris. Brute force is not what you want : it is the thorough and persistent endeavor to do the work well that yields the best returns ; remove the visible source of irritation and nature will be your most efficient ally.

To my mind, the most desirable plan to secure teeth in a fixt position is by means of bands properly fitted, soldered together, and cemented on the teeth. They are easily made, are painless, cleanly and comparatively inexpensive, and can be applied by the average dentist.

As to medication, my main reliance is placed in hydrogen-peroxide and sulphuric acid. Iodine in glycerine is sometimes indicated as part of the treatment, tho none of us can lay down any set rules by which we can be governed in all instances. It is only by a careful study of all the symptoms that we reach any satisfactory results. Over-medication and too much heroic surgery have been responsible for the loss of many teeth that might have been saved.

During the past six months I have been having good success where we would be justified in saying the teeth were worthless, and that the best way to cure the disease would be by extraction. You all have recognized the fact that the disease does not continue after the teeth have been removed.

Dr. Geo. W. Miller, of Des Moines, Iowa, claims that no pulpless tooth is ever affected with pyorrhea alveolaris, and I believe this to be true, not having ever seen one so affected, and my friends in St. Louis not being able to produce a case.

Where you have little hope of saving a tooth, open the pulp chamber ; treat and fill the roots, if pulpless ; if the pulp is alive, devitalize, treat and fill the roots. Thus give the teeth a chance by using all the means in your power to save them. I would repeat briefly :

1st.—Bring the patient to understand the importance of properly cleansing the teeth and gums ; and to do this, brush the teeth yourself, if necessary.

2d.—Remove all the deposits from the crowns at the first sittings, and as much from the roots as possible, without great irritation ; treat the gums and process at the same sitting to bring about healthy action, continuing the treatment for as many sittings and as frequently as, in your judgment, the case demands.

3d.—If you find any teeth aching, with live pulps, devitalize. If pulpless, whether painful or not, commence to treat the roots preparatory to filling, always making a liberal opening into the pulp chamber.

4th.—Fix the teeth in a secure position by firmly banding them together and securing the affected teeth to firm ones.

5th.—Be careful not to irritate by too frequent medication, or by too vigorous mechanical efforts to remove foreign matter from the teeth or roots. The process or gums, need no surgical interference.

6th.—Do not make too many promises. Do not abuse other dentists for not having succeeded in any given case, as you may be unsuccessful yourself. Secure your fee—and make it large enough; this alone may help to inspire the patient with a desire to keep the mouth and teeth clean and healthy.—*Archives*.

Dental Hints.

DR. A. D. PENNEY, CHESTER, ILL.

IN our offices. How many have a suitable light to operate by without injury to sight? To overcome a defect in the light in my operating room, I use a jeweler's shade—and it is "Eureka."

How many dentists use the large hand magnifying glass, in conjunction with the mouth mirror, to examine fillings, cavities, etc.? I assure you, its use will decide the cause of many of our failures, and help us to success.

Cleaning and polishing teeth. To remove the tartar, I use thin, springy, curved-chisels, resting my fingers on the teeth, using the mallet, with hand, or the assistant (the assistant is best), with quick, light blows; very little, if any-wounding of the gums is caused. In polishing, I use peroxide of hydrogen, in conjunction with powders, etc., and use the engine.

In tying on the dam, we often have teeth that cause trouble and loss of time to get the string to stay in position. I daub a little copal-ether varnish on the first knot, then use my chip blower, and tie the other. This is also good for holding a refractory clamp—that will fly off—use spunk with it. After your dam is in position, with most patients, there is an excessive flow of saliva, caused, mostly, by the contact of the rubber on the tongue and lips—this is always annoying. To avoid this, I use a napkin holder. Fold a napkin once, draw it up under the rubber and fasten it over the head. Your patients will bless you, for the relief and comfort.

In filling teeth with gold, where the cavity extends well up on the cervical border, I use felt tin foil for the portion above the gum margin. In filling large and well defined proximal cavities, I have been using Steners & Sibley's Felt Gold, which don't require more than half the time to condense by hand pressure, as other forms with mallet, and appears to make quite as satisfactory a filling. In filling teeth with amalgam, I have always used the round points, with rotary motion; for some years I have used spunk in a pair of tweezers, to *consolidate*, but find that a set of spunk-pluggers are the best. Take a number of old burs, fold over them spunk, and tie it.

In filling all proximal cavities, where there are two opposite, I bridge them; if only one, I brace it against the other tooth, and separate and finish at the next setting. If bicuspid, I *always* extend the filling across the crown; it is best, with *any material*. Two-thirds of the chewing done, is on the bicuspid, and they *must be filled* on the grinding surface, to save them.

When your amalgam plug is completed, *let it alone*; don't *wiggle* at it *here* and *there*; you can't improve it till it hardens; you give the fluids a chance to enter when you touch it. Again, when you use the dam, be careful to draw out the strings, and take off the dam *carefully*. I am satisfied many a good operation is *spoiled right here*; as the cervical border can be so *scored*, it is bound to decay. There is no such thing as the bulging out of the filling, due to bad material

used; this is caused by an excess of material not being cut off and finished properly. In filling with cements, oxy-chlorides, etc., as a *permanent plug*, I mix well, run a small portion into the cavity, and work the rest into a stiff paste, and take it in the fingers, and roll it into balls, and fill with oiled pluggers. I have them good now, that have stood three and five years.

In filling children's teeth, I use amalgam, and bridge all proximal cavities—in *back teeth*—and leave them *this way*; but, if the child is old enough to admit the use of the dam, I prefer cement, for the front teeth.

In filling the fangs of teeth, there is nothing better than *pure whalebone*; if properly trimmed, it can be forced into the canal, where anything will go—use it with chlora-percha.

I think, where there is any portion of the crown left, from the second bicuspid back, there is no more permanent plan for restoration than a gold band, filled with amalgam.

In capping aching teeth (so-called): Wash out with warm water, stop the pain with oil of cloves and carbolic acid (equal parts), clean out decay *around the sides*; cut a piece of asbestos paper to fit the cavity, saturated with carbolized rosin, and lay it in the bottom of the cavity; cover with wax—*no pressure*. Sometimes phenol and Canada balsam in better than the rosin.

To remove a diseased pulp, that is sloughing, without breaking in pieces, I use peroxide of hydrogen in the cavity, on cotton for a few days.

To prepare an abscessed tooth, that *has had* a fistulous opening: Wash out well (as above); use cotton saturated with campho-phenique, and close tightly with rubber plugs for one week, and it is ready for any other filling.

In treatment of *exposed pulps* (I have no faith in *capping them*): Nine-tenths of those so treated are *sure* to be an after trouble to us, or some other brother. In operating on all such teeth (with single fangs), I deluge the pulp with a preparation of carbolic acid and oil of cloves; enlarge the orifice toward the fang, and take an orange wood stick, trim down fine, soak in creasote, and *drive into* the fang; often the pulp will spring out; fill *immediately*. I have *never had any after-complaint*; I have used this plan for years.

In regulating teeth, there are so many appliances and changes, expenses and pains, that the majority of the people won't have any of it. To do something for these people, I have for many years, practiced a method, which I call "finger regulating." Use your thumb and finger, or both thumbs, and *press* and *turn* the *teeth* the *way* you want them. *Instruct* the *patient* and *parents*, and impress on them that *this* is necessary three or more times daily; of course, you will need to extract some teeth, but they don't care, so they save the "*ckink*" and *pain*; you can also *improve* the V-shaped arch by this methods.

If children cause the front teeth to *project* by the continuous friction of the tongue (which they do), and we can change the shape of shrubs and plants, by twisting and bending them every day, why can't teeth be regulated this way? Don't condemn this plan, *untried*—give it a fair trial, and report.

In mechanical dentistry, I have been using Tague's Impression Compound, and think it is better than plain plaster for taking impressions, especially where there are teeth remaining.

I always keep, ready for use, a 6-oz. bottle of potassa alum-water, made by adding two or three teaspoonfuls of the potassa-alum to the bottle of fresh water. Use equal quantities of this and fresh water for mixing your plaster. It hardens the plaster, and keeps it from shrinking; and after vulcanizing, your plaster will *not stick to the rubber*.

To save time in taking an articulation, for a *full set* of teeth: After the impressions are taken, use a small wood peg on the anterior alveola ridge, and get the width needed. After your models and trial-plates are made, lay soft wax on the plates and press them down on some flat surface, and trim them. Now, take

them off your models and place them together, as they should be, in the mouth, and take a pair of calipers and place one end *over* the trial-plates, and use the other on the peg, and trim the wax till both agree in length, etc. When placed in the mouth you will need only to contour the wax to conform to the shape of the face.

After completing a full denture: Before inserting, and to save *much* after-annoyance, it is better to explain—especially to old persons—that their teeth will not stay in tight enough to eat with, by the suction; and that the suction (so-called), is only the adaptation of the plate to the ridge, etc., and that the plates are made useful *only* by the contraction of the buccinator muscles, which holds them firmly while eating. Show them how, by laying your finger under your cheek and using the muscles. This is the *main cause* why *old persons* have so much trouble with artificial teeth. Age has deteriorated the usefulness of muscles. I know many patients that could do nothing with their plates till I had *trained* them to use these muscles.

In extracting teeth for very nervous persons, I find that sulphuric ether, used on a small piece of sponge, and rubbed on the face, near the lobe of the ear, quiets them, and appears to lessen the pain. This is good, in conjunction with electricity? but, don't use it *too often* on the same patient.

In extracting teeth for a full upper denture, the cuspids are the most stubborn; but, after taking out all the other teeth, if you will catch them on the sides, well up on the cervical border (cutting through the alveola process), you will have no trouble.—*Archives*.

Exposed Pulp.

DR. ADAIR, OF GEORGIA.

I have moderately good success in capping pulps that are nearly exposed, or that are actually exposed by accident, as is frequently done in excavating the cavity. When I have a patient whose teeth are very sensitive, I get the best results by applying the rubber dam at the start, then drying the cavity with pellets of bibulous paper; next, with little pellets of cotton dipt in alcohol to absorb the moisture; then use hot-air syringe till cavity is dry; after which apply, on little pellets of cotton, ether, carbolic acid, creosote, or oil of cloves; then wait a moment or two, when, in most cases, the cavity can be prepared with but little pain to the patient.

If the cavity is deep-seated and very sensitive, I think best to cap with some non-conducting material; either a little lead cap, or chlora-percha flowed over the bottom of the cavity with a Donaldson nerve broach, previously wrapt, just at the end, with a little pellet of cotton, is frequently sufficient, if the cavity is to be filled with amalgam; but, if with gold, some of the cements placed over the bottom of the cavity, after the chlora-percha is dry, is better; because it makes a good bridge or foundation.

Lead is good: the only trouble is to get it properly placed and *keep it there* till you get the gold packed over it.

I have succeeded well with lead when I exposed a pulp by excavating: First, dip the lead cap in creosote, or oil of cloves, and after the gold is built in the retaining points and up to about where you want the cap to cover, place the lead cap and build the gold over the edge of cap, holding it in place with a delicate instrument held in the left hand till it is secured by building the gold over it. The lead cap is easily made out of different sizes of shot, hammered out to the desired thickness on smooth surface of anvil, then trimmed with knife to the desired shape.

On account of the cement being so easily adjusted, and being slightly sticky or adhesive, it stays where you put it better than any other material with which I have experimented: and, when it hardens, makes a good foundation on which to build gold, without yielding any pressure on the pulp.

I use the gutta-percha solution for a non-conductor, and also to prevent the escharotic action of oxyphosphate or oxy-chloride of cement on the pulp.

The pulp seems to tolerate the chlora-percha, in direct contact with it, better than any other foreign material I have ever used; and is so easily applied to the point desired. I use the solution about as thick as cream, and flow just enough over the bottom to protect the sensitive points.

A Donaldson nerve broach roughened a little, just at the point, and wrapt with a little cotton-fiter, makes the best instrument for applying the chlora-percha of which I know. It is easily bent so as to reach any point in any cavity, and, being so small and delicate, the solution can be carried to the bottom of any cavity, without getting any stuck to the sides and orifice of the cavity.

I mix the cement for putting over this about as thick as soft putty, so it can be made into a small pellet between the fingers and thumb, and then carried to the bottom of cavity, without any pressure directly over exposed point.

I think it is well to make a thorough diagnosis of all badly decayed teeth before we decide to devitalize, because I have found many cases where, at first sight, I had no idea but that the pulp was exposed; but, after excavating cavity, would find secondary deposit of dentine, thoroughly protecting the pulp, and no capping necessary.—*Archives*.

The Value of a Bald Head.

(EXTRACT.)

A MEDICAL correspondent contributes to a lay contemporary some remarks on his profession, which, tho containing truth, are amusing. His main object is to show that he has made a gross mistake in joining the ranks of medicine, instead of investing his money which had been spent on his education, in some business concern. He describes himself as a failure, and this after having worked exceedingly hard at his profession. The cause of his failure he attributes to the absence of two things which are chiefly essential to success in the medical profession. These he asserts are, in the first place, money; and in the second, a bald head. "I have no money, and my hair is inconveniently thick. Incipient baldness gives the appearance of a 'high and dome-like forehead,' and inspires the ladies with confidence. The fortunate possessor of this beautiful feature is pronounced 'very clever,' which settles the matter. Besides, it is almost indispensable for a 'good bedside manner.' All my medical friends who are getting on well have either money or bald heads; most of them have both." It is, no doubt, very much to the advantage of a young practitioner to exhibit a "modern antique" appearance, and nothing contributes so greatly to this end as a head which is innocent of hair." There is a real commercial value in a bald head, but this value is by no means confined to the medical profession. Whatever advantages, however, it may confer on a "business young man," to a medical man a fair estimate under favorable circumstances would be, at the lowest, five hundred a year. The assumption of age and ripe philosophy which a man can safely indulge in whose hair follicles on the top of his head have in early manhood undergone a process of fatty degeneration, leaving a white expanse of reflecting integument, is of common observation. The public are impressed by the appearance of things under these circumstances: a bald head will carry conviction to their minds when nothing else will—saving, perhaps, a flowing beard. Even the lower animals are not insensible to its attractions. It is recorded that a ostrich once sat down on the bald head of an Englishman, under the impression that it was an egg which required hatching. The circumstances were favorable to this slight error of judgment, and the sagacious bird must be acquitted of having purposely attempted to play a practical joke. But in this matter, as in all things else in life, appearances are everything. No one knows better the value of a bald head than he who possesses it, at all events in medicine; but how strangely captious is Nature, for while one man, greatly to

his worldly prosperity, conveniently finds his head becoming bald, another has to seek consolation where he can under the depressing circumstances of knowing that his head is the only place upon which he cannot get hair to grow.—*The Medical Press and Circular*.

Dentistry in Australia.

THERE are 480 registered dentists in Australia, and they have just formed a Dental Association, and have resolved to establish a dental college and hospital. How often it is that just in the juncture of necessity some generous man comes to the front to meet the demand. In this case the dentists of Australia wanted a dental institute of some kind, but a regular college was out of the question, for they had no money. They must commence in a modest way, and go no farther at most than an arrangement with the Medical Hospital to allow them to squeeze into some corner.

"Not quite so bad as that," said Dr. L. J. Blitz, one of their number; "if it will please the Association I will give you a beautiful site on Ryrie-parade, Clifton Hill, Melbourne, and I have a two-story house on the ground, all ready for occupancy."

And so the Dental Profession of Australia are in ecstasy. There are a hundred students ready to enter on the first course of the new college.

Dentistry in Japan and China.—Dr. J. Ward Hall, Shanghai, China, by request, spoke in the late American Association of the practice of dentistry in the East, in China and Japan especially. He wished at the outset to disabuse the minds of his audience of the idea that there is a wide field for the practice of dentistry in the countries named. It is almost wholly confined to the members of the European colonies located there. So far as practice among the natives is concerned, even in Japan, not much progress has been made. The Japanese well understand the nature of metals, and so far as the mere application of a metal to a tooth, as in filling a cavity, is concerned, they can do the work as well as any man. But they know no chemistry, no anatomy, nothing as yet of the nature of the structures of the teeth. Our terms and treatment they try to apply, but they have a very indistinct idea of what it is all for. Of the Chinaman it may be said he knows no dentistry at all. He carves teeth and ties them in, and he may in cases of severe toothache extract worms, but that is about the extent of his attainments.

There are, however, men engaged in practice in these countries who are well known in America, men who practice their profession thoroughly, and who do about as good work as is done at home. There are nine American dentists on the coast of China, but he is not certain there is a single one permanently located in Japan. In all India there is not one truly American dentist; not that the circumstances prohibit his presence, but because the man has not yet been found who could face the difficulties of the climate, etc. Egypt has its American dentists, and the profession there needs no criticism. As to the opportunities for practicing in the far East, he is inclined to say to the young men that a man who with industry, talent and ambition cannot succeed in a country like this will find a poor field for his ability in a foreign land. For himself he cannot help regretting that he left his native home.

Dr. W. H. Morgan, Nashville, Tenn., said that the M. E. Church South has established a hospital at Tokio in connection with its missionary work, and Vanderbilt University Dental Department has been invited to select from its classes and send over a young man competent to practice dentistry to take a position in the hospital and also to practice. He wished to state that the American Medical Association will hold its next meeting at Nashville in May, 1890, and he extended a cordial invitation to those present to attend the Dental and Oral Surgery section of that body.—*Cosmos*.

Women Dentists.

Men have all rights ;
 Women have but two :
 They should nothing know,
 Nor they should nothing do.

THIS seems to be the opinion of Dr. W. R. Spencer, as he expresses himself in the December issue of your valuable journal.

He does not seem even to try to tell us why women should not follow any pursuit that they may deem themselves adapted to, but merely complains that they will take the bread and butter from his mouth. If women are really able to crowd men into the back corners of the profession they must have more skill and ability than the men.

The writer of this is not a D. D. S., but an M. D., and always glad to welcome any earnest man or woman into the medical ranks and see them take any position their talents may entitle them to, regardless of their sex.

When the doctor asks the Lord to deliver him from professional women one would think that maybe it might be well for the Lord to deliver him from any woman who had the ability to look after her own interests.

He would probably prefer one who had no higher aim in this world than to obey her lord and master's bid and call.

The fitting of any true woman for dentistry will in no way unsex her ; no way make her less dependent on any man who has the right to defend and protect her ; will in no way make her derelict those duties of a housewife or of maternity ; but rather increase and enlarge her knowledge of these obligations. But there are many who do not have these " joys " (?), either because they do not have the opportunity (?) or because they do not want them (?), and to them is the necessity of undertaking " man's work " (?) in its most serious and practical manner.

That women do not value their labor is not generally accepted. They do not often undervalue themselves or their work.

In all the professions that women have entered they have prospered at a little faster rate than the average man. It must be because they do good work. And I think every man who has ability enough to stand on firm ground will say with me, Let them enter our noble professions.

AN M. D.

Women Dentists.

DR. LILLIAN WHITE, PHILADELPHIA.

WE hope, Mr. Editor, you will give a little space to a "sister" in the profession to reply to "Women Dentists," by Dr. W. R. Spencer, in December *Items*. This gentleman says : "There seems to be a growing tendency among the women of the present day to undertake what may be called man's work." The distinguished brother does not tell us where the confines of man's work ends, and the boundary of woman's begins ; but he seems to be positive that the dental profession is a work that is exclusively man's. What is man's work in contradistinction from woman's ? It is the work we can do best that is our work, whether we be man or woman.

There was a time when woman was held in low esteem ; she was deemed incapable of doing anything but attending to domestic affairs, unless it was working in the field as a slave. But the progress of civilization, and of woman in the various callings and professions, has demonstrated that she is capable of a higher work. It comes to the question of capacity. Has she the capacity to master and practice in the dental profession ? Visit the dental schools of the land and hear how we recite when "quized" on anatomy, physiology, chemistry and other branches of the dental course. Go to our offices and see how we do our work.

Our brother further says : "It is only when a woman has made up her mind to relinquish all hope of home, and I am tempted to say of heaven * * * it is only when she has lost all maternal instincts, and determined to destroy all

that tends to make her lovely and lovable to man—only when she has become a man hater—that she turns to the vocation of man for her support. Then she becomes a competitor with him in the struggle for existence.” Thus writes the *able commentator* on woman. He assumes that every woman has a luxurious home, and that her only object in life ought to be to seek out and obtain “*an arm that her Creator has made stronger than hers to support, shield and protect her from the dangers of life.*” He pictures the married state as a *sine qua non* of her earthly happiness, and deems a woman who prefers to remain single and make an honest living at “Dentistry” the prototype of sin and incarnation of vice, descending slowly but surely to the gates of perdition! We do most emphatically deny that a woman has to sacrifice her higher instincts, everything that is pure and holy in her nature—when she enters the field of professional life.

The corner stone in the temple of her grace is virtue, but this standing alone is not sufficient; education and the refinement that it brings with it must be added. The fair inference from the broad statement of our calumniator that we surrender our virtue and noble qualities when we enter the dental profession is without proof; it is untrue, and we hurl it back with the indignation it deserves.

We work too cheap? In many departments of labor, it is true, she is required to work too cheaply. And why? It is because she is restricted to a few vocations so that great competition is produced. She is forced to take any price for her labor she can get, for it is work, starvation, or worse. But in professional life she can and does demand reasonable fees. Oh! what a beautiful and ennobling sight it is—the grandest under Heaven to see a *brother* in the profession, *one whose arms were made stronger than hers to support, shield and protect her*—or e to whom the sister looks for aid, comfort and encouragement—to see this brother afraid and ashamed to have her do his work because it is beneath her dignity! or indignant to see her aspire to it because it is above her!

Whatever may be the fate of “women dentists,” may the Lord deliver them from the homes of professional brothers, who hold them in such little regard.

In December *Items of Interest* “Women Dentists” seems to worry young Mr. Spencer considerably.

It seems to me if he is successful he need not fear being supplanted by a woman. Men in professions should bear in mind that all women are not being supported by their lords of creation as they should be. How many women to-day are supporting their children, and a drunken husband, by hard labor. If such a one could be endowed with professional knowledge and skill how much better she could meet life’s necessities and cares. Suppose this young man who complains of women dentists, after he has married, and brought up two or three dependent daughters in a luxurious home, becomes incapacitated for labor, how opportune to have one of those daughters able to take her place at the dental chair and another perhaps in the laboratory.

Oh, mothers and fathers (however wealthy), if you have the love for your daughters as for your sons, fit them for something better and more substantial than “stars” in society.

Every woman should know how to support herself, and others if necessary, and all fields should be as free to her as to her brother. For when we pursue the course we like best, in that only will we be successful.

It is a mistaken idea to say that when a woman enters the professional field she is a man-hater. It is the delight of every true and noble woman to be a wife and a mother, and to be a help to her husband. It is no disgrace for her to be his equal, professionally as well as socially.

I would say to women, Walk in every avenue open to you. Be industrious and you will be happy.

I. GRAY.

Ann Arbor, Mich.

How Englishmen Look on Women Dentists.

IN December ITEMS OF INTEREST I see a letter from W. R. Spencer, of West Point, Va., decrying women dentists.

The letter is not quite *en rapport* with the spirit of the age, to say nothing of the absence of the chivalrous spirit toward women for which Southerners are proverbial.

The arguments contained in the letter are fallacious in detail, and illogical in general.

The prayer offered by the writer, "The Lord deliver me from one of these professional women," will undoubtedly be answered, but should it, in the peculiar turn events sometimes make, be otherwise, there is no doubt as to who would be the "better half;" for, should any high-minded and generous woman take compassion on such a lord of creation, it would only be another evidence of the noble and self-sacrificing spirit that is an inherent factor in a true woman.

A woman does not lower herself, neither does it demean her to strike out against the great odds and narrow-minded prejudices of some members of a "liberal profession" to earn a livelihood and make a name for herself in the active competition which she courts by her joining our ranks; rather more is all credit due her for the sacrifices she has made and the obstacles she has overcome to prepare herself to cope with her professional brethren.

The task she has set herself to educate public opinion in her favor is no small one, and her success will be a grand lesson of pluck and perseverance to the weak-kneed and backboneless specimens with which our profession is sandwiched.

There is nothing to fear from women dentists from a mercenary standpoint; a dollar is worth just one hundred cents, and if a woman's work is as good or better than her professional brother's, her skill will command just as much. We are quite safe in leaving it to our sister dentists to get what they in honor believe their services are worth. The law of supply and demand will prove an important factor in this respect, also.

I believe it is not always the woman who is the keenest to marry and who has the "desire to lean on an arm which her Creator has made stronger than her own." That arm is strong just in proportion to the depth of the cerebral sulci of its possessor.

As a rule, opposites mate; and it is the man who more often profits by an alliance with one of these derided sisters, who not only frequently has to do battle through life for herself and little ones, but also for the animated clothes-rack who had sworn to "love, honor and protect! her," and whose only interest in her health is that it may be spared that he and the other helpless members of the family may not be thrust on the charity of a cold, unfeeling world.

The learned professions are not one whit more noble by the absence of women from them: and evidence there is, and plenty, too, that where women have gone in for science and art they have shown capacity not excelled by man. While in the minutie of our profession the mechanical capacity of woman may leave much to be desired, the same thing is true of our masculine confreres.

Women can show as great success as men in dental practice. Let us have a fair field and no favors shown. If a woman can demonstrate her capacity for doing any work as well as a man, accord her the privileges, and not carp about man's domain being invaded by woman.

Men will prove their right to the position they presume to occupy by demonstrating their ability to fill it; should they be found wanting, public opinion will not be long in relegating them to the one they by nature are best fitted to fill. The same applies also to woman.

W. MITCHELL.

15 Upper Brook street, London, W., England.

A Lower Molar With Three Roots.

EDITOR ITEMS OF INTEREST:—I have an "item" which may "interest" some of my brother practitioners. November 18, a young lady came to have a tooth extracted. The right lower sixth-year molar was badly decayed on the anterior proximal surface. The tooth had been dead for six months. It was a trifle sore.

I made a local application to the gums, and after a moment applied the forceps. The tooth was difficult to move and I noticed that the second bicuspid immediately loosened and moved more than the molar. The bicuspid seemed to slowly emerge from its socket while the molar remained nearly stationary. I immediately transferred my attention to the bicuspid and removed it and afterward extracted the molar with ease. Now comes the strange and interesting part of my "item." On examining the molar I found three distinct and perfect roots, all large and well-formed; the third root springing from about the same position as the buccal root of an upper molar, and possessing all the characteristics of an upper molar root while the other two roots are the same as those of any lower molar. Never hearing of such a case before I send this to you, thinking, perhaps, it may be among the first on record.

DR. C. W. HOWARD,

Watertown, N. Y.

CHICAGO, Nov. 13, 1889.

Editor ITEMS OF INTEREST:—I notice one or two errors of dates in your editorial in November number on lady dentists. Mrs. Henrietta Hirschfield must have entered the dental college in the fall of 1867 (instead of '68) since she called at my office in Chicago in the spring of 1868, just after she had graduated, expecting to find Mrs. Lucy Hobbs Taylor, D. D. S., from whom I had purchased the office the autumn previous, and who had been graduated at the Ohio College of Dental Surgery two years previously, in 1866, instead of the same year you state. I was in a position to know these circumstances positively, and to have the dates fixt in my mind beyond the possibility of mistake.

EDMUND NOYES.

WASHINGTON, D. C., Nov. 18, 1889.

T. B. WELCH, M. D: Dear Sir—I have a copy of "The Teeth," and in looking over the "Treatise" I find a statement, thus: "In extracting teeth the pain may be entirely overcome by the use of nitrous oxide gas. The main difference between this and the common air is in the *presence of one proportion more of oxygen*, which all recognize as the life giving principle of the atmosphere, p 34. I see that Barker gives the formula, N_2O_3 , Mitchell, N_2O , atmosphere. Barker and Mitchell agree, by volume O_2O_8, N_{72} . According to that I don't understand how there is one proportion more of *oxygen* in gas than in air. I should like to be put right on the subject.

I. C. EDINGTON,

211 4½ St., N. W., Washington, D. C.

T. B. WELCH:—Several have written what they do to prevent the slipping of the belt on the dental engine. I will add my way among the list. Get a box of nice fiddler's rosin and hold it against the belt while the engine is running, so as to give it a good "greasing." It will then stick and hug to the pulley so nicely that it will make you smile.

O. W. BAKER.

Boothbay Harbor.

Dr. Samuel A. Milton, of Clinton, Mo., has recently invented and patented, an apparatus for producing the "Mechanical Absorption" of remedial agents for obtunding sensitive dentine. The remedies are placed within the apparatus, vaporized, and then thrown into the cavity of decay, with force sufficient to produce what the doctor terms, "Mechanical Absorption."—*Archives*.

Well, let the patents come if they are only improvements.—ED. ITEMS.

Treatment of Teeth Preliminary to Filling.

SEVERAL times lately we have removed oxychloride and oxyphosphate fillings from the labial and buccal surfaces of teeth for the purpose of replacing them with gold, porcelain inlays, etc. In most, if not all of the cases, we have noticed the general hardness of the margins of the cavities and the walls as well. In many of the cavities the primary object in filling was to protect the teeth till a more favorable opportunity for the insertion of a more durable filling. Teeth so treated appear to be benefited by this kind of preliminary treatment, even more than when gutta-percha is used as the temporary filling.

Cement fillings are not disturbed in the act of brushing. They are harder, and if properly protected till solidified, they do not leak. Gutta-percha, on the contrary, if unskilfully handled, or if it is over-heated, or is not properly packed till it is cold, does not so well and thoroughly fill the cavity as an oxyphosphate or other cement filling. The tooth does not appear to be so sensitive after a few month's wear of a cement filling as it is when gutta-percha is improperly used.

If more teeth were thus treated the dentist would get better results, and his client would be better served. Try it, and report.—*Editor Dental Review.*

Replacing a Baby-Tooth.—Dr. Meriam says: One morning a lady appeared in my office with a baby between two and three years old, who had fallen from a chair and knocked out one of the front teeth. The mother had taken up the child and while the nurse held its hands she immediately replaced the tooth. In her agitation she put it in wrong side before, then removed it and placed it in its position correctly. I applied no ligatures, and advised her to let it alone. She took turns with the nurse in holding the child's hands for a few days, so that the tooth should not be disturbed. I requested her to allow me to see the child occasionally, so that I might keep a record of the case, which she could easily do as their summer residence was near by. She did so, and for some years would occasionally bring in the child. One day she came in and gave me both the front temporary teeth. The tooth which had been knocked out remained in the mouth a fortnight longer than the other. There was no noticeable difference in the teeth, except that one was a shade darker than the other. There was no difference in the absorption. That had, as far as I could see, gone on alike in both teeth. I have the teeth now. It was a case of heroic treatment, and by a heroine. One of two conclusions we must accept: either that the pulp reunited, or that the absorption took place in the devitalized tooth exactly as in the other.

More About Lead Cones.—In October *Items of Interest* I ventured to record my experience against the use of lead cones for filling root cavities. I gave as my reason that lead placed in the pulp cavity of a tooth was liable to oxidate, the effect of which was to infiltrate the enamel near the gum margin. That while lead was sometimes embedded in the tusks of elephants, and encysted harmlessly in the human muscles, yet when inserted within the walls of a pulp chamber it could not remain impervious to oxidation unless absolutely dry, a thing scarcely possible with roots that have been soaking with suppurative matter.

I find in the December *Items* John F. H. Duff, M. D., takes exceptions to this experience of mine and furnishes instances, especially "one in his own jaw, that was satisfactory and comfortable." He had also seen several "suppurated teeth filled with lead cones doing well." It is always refreshing to a humble dentist to have his skull lifted by an M. D., and knowledge emptied in on him. The superiority and ponderous weight of an M. D. obscures, overshadows, and belittles the lesser titles of the modest dentist, so that, in the presence of such magnificence, he stands bewildered with awe, reverence and pitiful insignificance. But amid the gnarled facts of our every day routine, we see and know what neither theory nor one or two isolated instances disprove.

Dentistry in the Past.

IN the ITEMS OF INTEREST of September, 1889, you published a disparaging view of dentists of the past, by Dr. W. C. Barrett, in Kansas Dental Society. Now sir, I suppose from the tone of Dr. Barrett's article, he is not posted in regard to the standing and education of the dentists who stood fifty years ago, battling for the upbuilding of our noble profession. If dentistry was in its crude state it is no reason why the dentists of that period should be classed as men who had failed in other pursuits, or as ignorant vagabonds! I will ask Dr. B., what will you say of Chapin A. Harris, of Baltimore, the founder of the first Dental College of the U. S., and of the *World* in 1838; and of the other noble progressive spirits associated with him? Who, I ask, is Dr. William H. Atkinson, of New York, who has just completed and celebrate his fiftieth year of dental practice? And who was Dr. Edward Hale, Dr. B. B. Brown, of Saint Lewis, who practiced there from 1838 to 1849? And Hale to 1864, and Dr. Forbes, of St. Louis, practicing there from 1843 to 1880? And I may say Dr. H. I. B. McKellops, who commenced practice in Saint Louis in the spring of 1849? Who was Dr. Jayne, who practiced dentistry in Philadelphia and New Jersey, from 1848 till his death? I might mention a host of others whom the writer of this article knew in 1835. I know all these gentlemen were educated, and some of them were chemists and pharmacists, if dentistry was in its crude state. It took a good mechanic and an artist in those days to construct a full set of teeth on a gold plate. There were no text books, except Harris, and the student had to work out his own problems by careful study and perseverance. The appliances and instruments we had to work with in those days were crude, and many of those we had to forge and construct ourselves. We had no dental depots to supply our wants. The laboratories of our most skilled professional brethren were closed against us. We had very respectable porcelain teeth manufactured by Mr. Stockdon, of Philadelphia, the uncle or graduate of S. S. White.

Since reading the article of Dr. Barrett, I have wondered how old the doctor is. I suppose at any rate he has seen General Washington. I agree with the doctor that there was empirics then as now, but the doctor must not so disparage the dentists of fifty years ago. Those who are left of us know better; and we know what difficulties we had to contend with, and the mud and slush we had to wade through. Even now it is difficult to sift the wheat from the chaff that the mills threw out. You say we ought to be guided by the experiences of the past and our best observations, rather than to hold on to each other's coat-tails. Now, if you will just say honor is due to the dentists of fifty years ago for laying the foundation of dental art and for building the structure we now enjoy, you will redeem yourself

GEO. H. SILVERS, D.D.S.

Wellsville, Mo.

Depositing Metal.—The process of depositing metal by electricity is not new, but its adaptation to many purposes has lately received attention and it is working quite a revolution in silver goods. The beauty of the work is in the fact that it can be made into any form. The covering of umbrella and cane handles, while quite an industry, is but a small part of what can be done.

The pure silver is deposited directly on wood, plaster, or any model, and also upon glass, and the result is a beautiful solid silver piece. It is destined to revolutionize all rolled and stamped work. The principal workers in this line are Thomas G. Brown & Sons, Durand & Co., and Jamouneau & Leibe, all of this city. This process has also been applied largely to the making of dental plates for artificial teeth, the metal being deposited directly on the model and a perfect fit is the result, which is a very great advantage over all others. It is thought by the manufacturers that this electro-deposit process is only in its infancy and that there is no limit to its adaptation in the arts.—*Newark Daily Advertiser*.

Those Little Files.

PHILADELPHIA, Nov. 29, 1889.

WILMINGTON DENTAL MFG. CO. :

DEAR SIR :—The little files which you procured at my suggestion, and from which I have sent specimens to several of my professional friends, are so invaluable that I desire to call the attention of the profession at large to them. Being thin, knife-blade shape (very narrow), and cut only on one side, they are invaluable in dressing down fillings on the mesial and distal cervical surfaces of teeth. They are so readily passed in at the space above the filling and against or in close proximity to the gingival border of the gums, we can accomplish with them a desirable end, with more ease and efficiency than with any other instrument, disk, or tape.

The appearance of this little right and left curved file so quickly suggests its use and application, that it has but to be seen to be desired. My attention was first called to the instrument by Dr. H. C. Miriam, of Salem, Mass., about a year since, and I never attempt to finish a filling on the proximal surface without feeling thankful to Dr. Miriam for his suggestion.

C. N. PEIRCE.

Curiosities of Medical Literature.

WE clip the following from a Brooklyn newspaper, the operation referred to having been performed in this city:

"A woman of middle age, living at No. — — Avenue, has been suffering from a cancer of the upper jaw. It began five months ago from a decayed tooth. Finally Dr. —, a young man of great promise in his profession, undertook the operation for removal, assisted by other physicians. After cutting through the lip, the side of the nose, and horizontally under the eye, he found a great portion of the bone involved, including sinews running to vital points, so he boldly undertook to remove all the diseased parts; not only the exsection of the right upper jaw, and the plate on which the eye rests, the nasal and other parts of other bones forming the skull, but dug out from various openings running to vital centres. It was an operation exceedingly rare, of greatest delicacy, and extremely dangerous to life; but by the valuable assistance rendered he was able to control all hemorrhage, and to rally the patient from the collapse into which she went. Now, after twenty-four hours, she has a good pulse, takes abundant nourishment, is able to talk, and bids fair for speedy recovery from the operation."—*Brooklyn Medical Journal*.

What is the above wonderful operation but the way of an ignoramus, with his "learned" associates, to remove the ulcerating root of a tooth? What would be thought of such stupidity in a dentist?—Ed. ITEMS.

Capping Pulp.—I have capped pulps with almost every material from a goose-quill to a buck-shot, including the chlora-percha, oxychlorides and phosphates, bone, sponge, and asbestos; and the percentage of success has been greater with lead or asbestos than with any other material. The tissues of the body seem to tolerate lead to a remarkable degree, thus while it is almost universally used as a missile of death, sometimes, it is a conservator of life. The asbestos-felt is slightly moistened with a mixture of carbolic acid and oil of cloves and carefully placed over the floor of the cavity, and the cavity then carefully filled with cement, which should remain a few months before the permanent filling is inserted. Being a non-conductor, the pulp is protected from the influences of thermal changes.—C. S. STOCKTON.

When a pulp is once ruptured, the chances are against its life; and the better plan is to "knock it out" at once, rather than to have it die by slow degrees, every now and then giving its possessor shocks and throbs that remind him of the crack of doom and the end of worlds.

One important factor in the health of exposed, or nearly exposed, pulps is the health of the patient. With the young, too, we are more sure of success than with the old.—S. C. STOCKTON in *Archives*.

Finishing a Plate.

DR. D. P. VINCENT, OIL CITY, PA.

To my mind the palatine surface of a plate is the one that should be as nearly perfect in its mirror-like finish as is possible. It is my opinion that most "rubber sore mouths" are the result of rough plates rather than of any poisonous constituent of the rubber. My plan for securing this on the palatine surface is as follows :

When I take an impression, I at once immerse it in cold water, and as quickly as possible prepare my plaster for the model, and pour it at once, using no other substance to assist in separating than just the cold water, except that I dip into hot water occasionally while I chip away the impression from the model. If care is used in chipping away the impression, you will have a model that will exactly correspond with the mouth and that will be free from all bubbles or granulated spots.

Then immediately before packing, (immediately because any other time will not do), I coat this surface with liquid silex, and when I open the flask after vulcanizing, the model will break away from the plate leaving a surface that cannot be improved. For removing the plaster, I never use anything sharper than a wax spatula, as a tool with a keener edge would be apt to scratch and mar the surface. Care must be observed in the use of silex, not to allow it to come in contact with the pins of the teeth, as it will prevent a close union of the rubber.

As for the lingual surface, however carefully you may smooth your wax, you can improve this surface with fine sand-paper. Then just before closing the flask, coat this also with the silex, taking care to avoid all surplus as before. Then close and vulcanize at once.

When you open the case, very little plaster will adhere to the plate, and what little does can readily be washed away.

If the teeth are plain, I use file and scraper till I get the desired shape for the rim and plate margin, when I proceed to carve the gums; after which the plate is ready for sand paper. For this I use No. 00— $\frac{1}{2}$ and 1 emery paper, as it cuts cleaner and smoother than ordinary sand paper.

Use first the coarser grade and lastly the finer, when it is ready for the lathe.

Here I use felt cones and wheels with moist pumice powder till I remove all traces of the sand paper. To get between the teeth I use with the pumice a stiff brush wheel.

Now wash the plate thoroughly to remove all pumice, and dry. Then oil the plate well, and holding it in your left hand put about a teaspoonful of fine plaster in it; rub briskly with the thumb of your right hand till the plaster absorbs the oil, taking care to reach all parts of the plate.

If you cannot do this with your fingers, use your soft brush wheel.

Dentistry in England and India.—Dr. J.W. Hall says with reference to the status of dentists in England and India. Under the law in Great Britain, the diplomas of only two colleges in the United States are accepted without question. Graduates of other colleges who wish to practice there must do so behind the name of some other man or must have been in practice at the time the act went into effect. When the act was passed, it was thought to be an advance; but there is now considerable trouble brewing over it in London, tho the difficulty of procuring the repeal of the act is great. As to the social status of the dentist in England and India, it is well known that the English are a club-loving people, and the character of a man is determined to some extent by the clubs in which he holds membership. There is not in all India a dentist, nor does he believe there is one in England, who is a member of a first-class club, or who enjoys the social relations that a professional man should be entitled to. This is because his profession is looked on with disfavor.—*Cosmos*.

Moisture-Tight Gutta-Percha Fillings.

THE hint with which Dr. Templeton is credited, as to the use of rosin and chloroform varnish, is old; it has been published many years ago, and no doubt is very well known in this country. It is by no means the best preparation for drying a cavity—a solution of gum copal in a mixture of ether and chloroform is far preferable; but the principle is the same in both. The action depends on the peculiar power of chloroform and the lighter ethers, of driving water from a wet surface.

Both the preparations made by myself, *i. e.*, the carbolized rosin and the copal ether varnish, have this property of driving water away from a wet surface, and Dr. Templeton can therefore hardly be credited with discovery of what has been very well known for many years previously.—*Thomas Fletcher, in British Journal of Dental Science.*

Campho-Phenique.—I consider Campho-Phenique an indispensable medicine in my case of remedies. I use it for local anesthesia in sensitive cavities, with as much success as any other local anesthetic; as a dressing to all prepared cavities before filling; in all root canals, after the removal of pulp and nerve; as a dressing in all pockets about the teeth, after the removal of calcareous deposits. In fact it is no longer so much the question with me, where to use it, as where not to use it. Some dentist asked me, not long since, what antiseptics and germicides I used. I said, first, I use Campho-Phenique; then secondly, I use Campho-Phenique; and in the third place, I use Campho-Phenique. If I must be confined to one preparation, I would select Campho-Phenique.

I. D. PEARCE.

Law has its "shysters," medicine its "quacks," divinity its "impostors," but it has remained for dentistry to cheapen itself and depreciate the value of its services to the public.

Fancy a lawyer advertising "best advice only \$9, poorer quality \$5," or a physician, "best prescriptions only 50 cents, common ones 15 cents," or a clergyman, "best sermons only \$5 each, and if two be taken on a Sabbath no extra charge made for attending Sunday School in the afternoon." And yet our daily and weekly papers contain scores of this class of dental advertisements, to the utter disgust of professional and intelligent men and women. Why will dentists pursue this course, and shut themselves out of the most desirable class of practice? Surely it is time to put away from us this evidence of "callow youth."—*Dr. J. B. Willmott.*

One of the lawyers for the defense, in the Cronin murder trial, asked that the testimony of the dentist who identified the victim by certain peculiarities of the teeth, and the production of a model of the murdered man's mouth, be stricken from the records, because it was only his *opinion*, the dentist having failed to insert the model in the mouth of the body found, and thus decide by actual comparison. It is needless to add that the judge overruled the exception.—*Dental Review.*

The New "Cervix Clamps," as devised by Dr. Ivory, are excellent. I have tried the "Stoner," the Long, and other Cervix Clamps, none of which have proved so generally useful and efficient as that of Dr. Ivory's. These Clamps are made in two sizes, are easily adjusted to the tooth, remain firmly fixed, holding the dam out of the way, and making easy an operation.

Altoona, Pa.

W. B. MILLER.

ED. ITEMS: In an article in your ITEMS OF INTEREST, of which I am a subscriber, you published an article from *Dental Review* in regard to *antipyrin*. Would you kindly inform me how administered for nervous afflictions and where procured best; also what bearing on dental practice.

F. H. SMITH,

Wilton, N. Y.

[Who will answer.—ED. ITEMS.]

For Our Patients.

TO have it out or not—that is the question ;
 Whether 'tis better for the jaws to suffer
 The pangs and torments of an aching tooth,
 Or to take steel against a host of troubles,
 And, by extracting, end them? To pull—to tug—
 No more ; and by a tug to say we end
 The toothache, and a thousand natural ills
 The jaw is heir to—'tis a consummation
 Devoutly to be wished. To pull—to tug—
 To tug ! perchance to break—ay, there's the rub ;
 For in that wrench what agonies may come,
 When we have half dislodged the stubborn foe,
 Must give us pause ; there's the respect
 That makes an aching tooth of so long a life!
 For who would bear the whips and stings of pain,
 The old wife's nostrum, dentists' contumely,
 The pangs of hope deferred, kind sleep's delay,
 When he himself might his quietus make
 For one poor shilling? Who would torments bear,
 And groans, and sink beneath a load of pain,
 But that the dread of something lodged within
 The linen twisted forceps, from whose pangs
 No jaw at ease returns, puzzles the will,
 And makes it rather bear the ills it has
 Than fly to others that it knows not of?
 Thus dentists do make cowards of us all ;
 And thus the native hue of resolution
 Is sicklied o'er with the pale cast of fear ;
 And many a man, whose courage seeks the door
 With this regard, his footsteps turns away,
 Scared at the name of dentist.

The Tongue.

“THE boneless tongue, so small and weak,
 Can crush and kill,” declare the Greek.
 “The tongue destroys a greater horde,”
 The Turk asserts, “than does the sword.”
 The Persian proverb wisely saith,
 “A lengthy tongue—an early death.”
 Or sometimes takes this form instead,
 “Don't let your tongue cut off your head.”
 “The tongue can speak a word whose speed,”
 Says the Chinese, “outstrips the steed.”
 While Arab sages this impart,
 “The tongue's great storehouse is the heart.”
 From Hebrew wit the maxim sprung,
 “Tho feet should slip, ne'er let the tongue.”
 The sacred writer crowns the whole,
 “Who keeps his tongue doth keep his soul.”

—Selected.

All About an Aching Tooth.

MR. JONES had heard and read so much about the sedative properties of chloroform that he became an enthusiastic believer in the value of the drug. Whenever any member of Mr. Jones' household was troubled with an aching tooth he would insist on the use of chloroform as the only reliable medicine for its cure. Mrs. Jones, however, was of a different opinion, and protested against bringing chloroform into the house. Finally Mr. Jones himself was attacked with an old-fashioned tooth-ache of the jumping variety, and Mrs. Jones begged of him to have the frisky member dispossessed by a process obtainable in all the dental courts, but Mr. Jones obstinately refused to resort to such extreme measures. Mr. Jones was a man of peace. He had never visited a dental court because of his unbelief in dental jurisprudence.

"The wildest animal that roams and breathes God's pure air," said he to his wife in a voice that rang out in the distance, "can be tamed and made tractable by chloroform, and I am determined to try it on my stark-mad tooth!"

The family druggist, however, had been posted by Mrs. Jones, and when one of the servants belonging to the Jones' household handed Mr. Jones a two-ounce vial filled to the cork with what he believed to be the soothing liquid—Mr. Jones never had occasion to use chloroform before—a playful smile lighted up his face in spite of its contortions.

"Now," said he, with the air of a man who feels himself master of the situation, "we will see who is boss of this anatomical shanty."

And Mr. Jones did see. Quickly removing the cork from the vial—his wife all the time urging him to be cautious because of the dangerous nature of the drug—he poured some of the liquid on a pledget of cotton and put it in the cavity of his tooth. The decoction of disguised alcohol was a refreshing potion to the tired and famishing molar, and it became restful and seemed perfectly tamed.

"I tell you," said Mr. Jones to his wife, with a triumphant flourish of his hand and a knowing nod of his head. "Chloroform, she is the stuff to hit the bull's eye every time. It has knocked the d—l out of that infernal tooth, already. Now, by jingo, I'm going to indulge in a comfortable smoke."

But he didn't. Reaching for a box of cigars he took one of them, and while biting off the end, lo, and behold! a protest came from the ever-wakeful molar. It had feigned sleep.

"Thunder!" he exclaimed, in a tone of voice that resembled thunder, while throwing his unlighted cigar out of the window. "That cursed, God-defying, man-killing, torture-inflicting tooth is at it again!"

And so it was. Mr. Jones' movements now were neither poetical nor graceful. He commenced a quickstep waltz around the room. With every "jump" of his tooth he would stand on one leg, while the other shot upward with a spasmodic jerk resembling the limb of a horse having the springhalt. Finally, as soon as he could gain an audience with his voice, he said:

"Kate, all the fiends of the bottomless pit—even smelling of brimstone, by thunder—have set up a demoniacal howl in that tooth again, and for God's sake send for a dentist!"

"Won't you have me prepare more of the medicine for it?" asked Mrs. Jones sympathetically, but with a slight twinkle of her left eye.

"Thunder and lightning, no!" he snapt. "I wouldn't give a continental kuss for all the chloroform there is in the country. It is an infernal fraud, Kate, and don't you forget it!" Pausing a moment, he added while gesticulating grotesquely: "Thunder! I believe every infernal tooth in my head is paining now. Talk 'bout the devil and his red-hot pitchfork stirring up sinners with parched mouths, and all the other tortures of the damned; why, it's nothing to this Kate!"

Mrs. Jones having hurriedly sent one of her servants for a dentist, he put in appearance when Mr. Jones had concluded this sentence. It took much urging,

however, to gain his consent to have the "dispossess" served on the frisky tenant, but he finally yielded to it, and Mr. Jones has become a firm believer in dental jurisprudence.—*Practical Dentist*.

Beautiful Faces.—Beauty everywhere is for enjoyment. Nature created beauty to excite pleasurable emotions. It never ministers to misery or pain. So, indeed, a beautiful face is created to be admired and enjoyed. The first thing that strikes us favorably in a face, is exactness of proportion, and then harmony of the features, whatever the type. These give pleasure to our artistic sense, be it crude or cultivated, for the artistic sense is innate in all men. We enjoy a beautiful face, be it young or old, man or woman, as other beauties in nature or art, with an additional pleasure from the consciousness of it being living beauty, and that it is animated by a soul behind it whose beauty it reflects. So in the beautiful face of a child it is the innocence and joy and freedom from care that the face reflects that attracts us, while we admire the mere form and contour and color. So also with the face made beautiful by intelligence and spirituality; we enjoy the contemplation of it for what it represents, and it lifts us above our sordid selves. The ethical effect of this spiritualized beauty in man or woman has a powerful influence for good, and it is felt by all. A good face does good by its mere presence among men, and the influence of such a person cannot be estimated. But facial beauty is so varied, and standards vary so much, that, taking all classes and tastes, perhaps there may, after all, be very few healthy faces that are not attractive and beautiful in some eyes—dull and commonplace as the majority of them appear.—A. H. THOMPSON, in *Cosmos*.

Southern California.—We have but little frost during any portion of the year, and then so light that it rarely does much damage to even such tender plants as bananas or heliotropes. Snow to a native Southern Californian is a thing unknown save as he sees it on the distant mountain top. Ice forms two or three times during the winter, just before sunrise, but never to a greater thickness than a quarter inch. Our rains occur, during the months from November to May, mostly at night, with an occasional profuse day-shower, so that there are not more than from six to ten days in a year that it is necessary for an invalid to remain in the house. The atmosphere is dry and the nights cool, even in mid-summer. The afternoon ocean breeze is also dry, which is accounted for on the supposition that a wave of air starts from the desert lands for the ocean, which is checked and returned; but on account of its brief contact with the ocean it has absorbed but little moisture. This dryness gives us a great advantage over Florida and Italy with their malarial swamp winds and sultriness. Nor has Southern California ever suffered from yellow fever or cholera.

Surely, when the human race cuts its wisdom teeth, it will no longer crowd into dirty, noisy, malodorous cities, but will seek health and fresh air in our all-the-year-round sanitarium, which is destined to become the sanitarium not only of America but of Europe.—*S. C. Practitioner*.

A Boston man, says the New York *Sun*, tells of a scene in a dispensary in that city. There came to the dentist of the dispensary an elderly Irishwoman with her strapping daughter. The mother was urging her daughter to have a tooth pulled, and the latter, after much persuasion, seated herself in the chair. The inquiries of the dentist as to which was the aching tooth brought out the information that none of them were particularly out of order, but as they were both quite positive that whenever a woman bore a child she must lose a tooth, they had thought it best to have a tooth out before it began to decay and ache. "Which one shall I pull?" asked the dentist, much diverted. "Sure," said the mother, "it's yersilf'll be known' wick wan'll be achin'. It's her furrust choild, an' the foinest b'y ye iver laid ois on."

Editorial.

Hypersensitiveness.

"DOCTOR, are you engaged?" said a lady of about forty, as she peeked into my office door.

"No, mam," said I.

"You are all alone?"

"Yes."

"Have you any engagements for the morning?"

"None."

"If I come in will you lock the door?"

"Well, now; how would that look? Suppose my wife should come and find us locked up together?"

"Oh, I would explain it; quick, say you will do it!"

"Well, come in, and let us talk over this matter. What is it you want?"

"Please promise me you will do as I say. I have sent my children to a neighbor's to stay, and to say I have gone out of town, and will not be back till evening; and my husband has gone, also. I would not have him know I am here for the world."

"What have I to do with your husband and children? Come in, and if you are in trouble tell me what it is."

She came almost through the door, and then seeing the key, said.

"But please, doctor, may I not lock the door?"

"Oh, no," said I, "that would not look well; suppose your husband *should* come, and know you were locked in with me, what would he think? Come in, and I will let you go into the inner room of my laboratory; you will not be disturbed there."

And so with great caution, and almost on tip toe, and looking about to see if really no one was in, she stood before me, a rather good looking and seemingly intelligent, refined lady.

"And now," said I, "what can I do for you?"

"But you said you would take me into your—what did you call it?"

"Oh, yes, if you prefer it you can take a seat in my laboratory. Walk in."

Walking in, she said:

"And now will you lock this door?"

"There is no lock on this door, but you will not be disturbed. But do tell me, what is the matter?"

"Why, sir, I have married a new husband, and—"

"What has that to do with me?"

"But please, sir, will you not allow me to confide to you a secret, and will you not agree to keep it?"

"A secret between you and your husband? Of course not."

"But doctor, I know you have a sympathetic heart, and you will do as I want you to; I have—"

"But, my dear woman, you are embarrassing me. For heaven's sake what do you want?"

"Well, you will promise me no one shall know—"

"Oh, now! come to business. What do you want?"

"But I would not have my husband know it for the world."

"Perhaps you think I am a physician? I am only a dentist. I cannot enter into any secret complaints."

"Oh, now, my dear man, you must promise me not to tell any one—not even your wife, what I want you to do. Please promise—"

"Well, now, the idea that I am your dear man! I can promise nothing; and

I must say I am getting a little impatient. If you want anything of me in my line, let me know it."

"You will certainly promise to get threwn with me before you let any one else into the office?"

"Nonsense, out with it, and let me know the worst."

"But you will certainly not let any one see me in this room; or tell any one I have been with you?"

"I'll promise anything, do anything; only speak out."

"Then surely you will promise me my husband shall not know I have been here? You will not even tell your wife?"

"Why, what in the world can you be here for, that your husband and my wife should be kept from the secret?"

"I have broken my plate, and—"

"Well, well; is that all?"

"But I would not have my husband know it for anything."

"Oh, the expense will be but a trifle; he can't feel offended at that."

"That is not my trouble; he never pays my bills; I paddle my own canoe, if you please."

"Well, let us talk no more of trouble; give me the plate, and let me repair it. I could have had it half done by this time."

"But, my dear sir, let me say one word more before I am incapable of speaking. You said you would promise me anything and do anything. Now promise me no one shall know I have been here,—not even your wife?"

"Come now, I am getting anxious; let me get to work."

"But, doctor; my own husband does not know I wear artificial teeth, and I would not have him un deceived for anything. Well, if I must submit, I must; but please hide me while you do it."

In six months from this time, I was passing her little house, where, long before she had married her second husband, she had supported herself and children by dressmaking. She was now chasing her new husband out of the house, breaking a chair over his head. "There," she screamed, "let me never see you inside of my house again. You promised me you would never come home drunk; yet here you are a beast, and as a beast you shall be driven from my door."

Complete What You Begin.

TO show dexterity in seizing great thoughts and great projects is praiseworthy; to have a passion for weaving isolated truths and facts into convincing and useful theories is more commendable; to be skilful in elucidating the principles of success, and in being able to combine them so as to assure success, evince the first elements of a good financier, and the acme of qualifications.

But to lack the energy and continuity of purpose to pursue these inspiring thoughts and projects and theories and principles to their ultimate triumph in the working out of success, is the failure of many a promising character possessing all these qualifications.

We cannot judge men by their promising schemes; it must be by their achievements. Many a man has enough good thoughts, and begins enough good projects, to make a dozen men noted and eminently useful and successful, if his many plans and purposes were pursued with intelligent zeal to their completeness. But some men seldom complete anything; and therefore are conspicuous only for their failures. They may stick to one thing long enough to do foundation work, and to demonstrate what might be done, but if the superstructure is commenced it is only so far reared as to show the folly of its abandonment; for it is sure to be abandoned, if it is in the hands of one of these flighty, flitful, fugitive geniuses.

They remind us of some of our rugged, hard-working, but shifting pioneers. Away back in New England or New York they did noble work in bringing their

rough farms into fair culture, but instead of waiting and working for profitable results, they were impelled by their love of change and adventure to sell out to one who could appreciate a good thing. They pass on to Ohio or Indiana and open up a new farm. Here, too, they do excellent work for a time, but before their new farm begins to yield ample returns for preliminary work, they have heard of the splendid prospects of Iowa or Minnesota, and away they go, willingly leaving their new accumulations for a newer venture. Soon even Minnesota is not new enough nor West enough, and they become uneasy till they move on.

Yes, such people are of use, and we should give them credit for hardihood, adventure and successful pioneering, *but*—

And this *but* is what we started out to elucidate.

One thing pursued to its completeness is worth a dozen things left unfinished. *It is the man who succeeds that is a success*, and not the man who only projects, tho his projects may be ever so promising. If *some* men have lived so long in this wandering, changeable, checkered way that they cannot benefit by what we here say, let you and I, dear reader, take to heart, and apply to our lives, the lesson they give us, and resolve to complete whatever we begin.

Of course this presupposes much discretion in the selection of an undertaking, for some men pursue nothing they have not stumbled into ; so that their principle successes are in successfully getting out of unfortunate pursuits. This is a foolish expenditure of life. Our zeal to do something worthy of our talents and opportunities must be mingled with wisdom, discretion and prudence. We must be sure we are right before we go ahead ; and in going ahead we must not be like the thoughtless horse rushing into the battle without calculating results. Better spend much time in reflecting, investigating and feeling after the position for which Providence has designed us (for He has a place for each of us) than spend the most precious years of our life in beginning many things and finishing nothing.

Don't expect to jump into success. Father's old shoes are often the most unfortunate fortune a young man can become heir to. God so ordains human events and human destiny that success must be the result of slow, tedious, painstaking growth. It requires, therefore, much patience, thoughtfulness and perseverance ; and all these qualities continuously, courageously and to the final completeness of our undertaking. There are few desirable things obtained for less than they are worth.

Being led by anyone's apron-string, or propt up by anyone's advice or money, or being "started in life" by a rich inheritance, are often a hindrance to a life of success. It is the discipline, hard work and economy, the thoughtfulness, ingenuity and necessities of our *training for* success that brings success ; and these qualities bring with success the brawn, maturity and capacity which make success desirable, profitable and permanent.

Look about you and see how many things are lying around loose ; put on your thinking-cap and bring to mind how many things you have projected to be neglected half tested ; see by the subsequent success of others in what you have prematurely abandoned, how many times you have let success slip from you to enrich them.

Now take a lesson from the past for the future. Resolve that when you have decided to read a book, it shall be your careful, thoughtful, thorough business, till it is completed, and its subject mastered ; that when you commence to write an article, for your own improvement or for the press, it shall be the best and most complete effort of your life ; that when you are weeding the garden, hoeing the potatoes, or picking up chips, it shall be a masterpiece of workmanship. Stint yourself in every employment, vocation or avocation, important or unimportant, permanent or temporary, useful or ornamental, profitable or philanthropic,—to complete what you begin. You will soon see how this habit brings you to your office dressed with completeness and taste ; how it will look into every little nook

and corner for dust or litter ; how it will thoroughly prepare you for your day's work, and help you to thoroughly complete every part of it, as tho you would make it the epitome of your life. And completeness in one department will induce the same habit in all departments of life, till you find yourself living a busy life of ease, a laborious life of rest, a responsible life of pleasure and an enjoyable life of success. Much more will be accomplished with less strain and waste and anxiety. You will have no loose ends to pick up, no snarled string to straighten out, no burning irons to take out of the fire ; each thing taken in hand will be completed, and therefore of no further care.

The experience of all of us shows the importance of educating children in the habit of completing everything they begin.

When a boy, we had definite work assigned us for every day, tho it was not much, and this had to be completed before it was left. The rest of the time out of school we had for play. But even in our play when father saw a kite or a windmill or a ball, lying about half made, he would remind us that nothing must take our spare time till this was finished. "Complete what you begin, my boy," he would say, and it has made a good impression on our whole life.

Words.

WORDS, isolated from sentences, seem to many of little significance. Their consideration is dry and irksome. They are looked on as mere arbitrary signs without etymological value. We admit, with sadness, that very many words have lost their original, internal, constructive meaning, and that even in names of children, little importance is attached to their primitive etymology. But we are still using words that have hidden in them social, poetic, religious, professional and scientific truth that is well worth examining.

Let us look at a few of them as specimens of many. We shall find, if we more minutely considered their intrinsic meaning, our use of them in sentences would be more accurate, so that our meaning would be more clearly expressed. Terse-ness and beauty of diction depends largely on the use of right words, and these words rightly arranged in our sentences.

For instance, we speak of a dilapidated fortune. If we called it a ruined fortune, we should be just as accurate, but why not bring to view a picture as well as a mere fact ? So art in language paints in a *dilapidated* fortune, a crumbled down house, the garden gone to waste, the stone wall broken down, and everything in a deserted, forlorn condition.

We speak of a *sincere* man, and if we know the etymology of the word, we find ourselves immediately looking into a beautiful, clear medium, through which light and objects are unobstructed. It is equivalent to saying the man is so clean and pure he is transparent.

And this reminds us of the beautiful figure to be found in the passage : "Blessed are the pure in heart, for they shall see God." Here, if we comprehend the figure, we see a heart, in a spiritually healthy condition—a beautifully transparent lens, so admirably formed that, when clear, it is capable of so penetrating the distance between earth and heaven as to see God ; or, turning it on the world, we see God in nature, as the earth is made effulgent with the beautiful rays of glory from heaven ; or, turning it on ourself, we see God there in the concentrated heavenly light with which it illuminates our being ; and thus so purifying, refining and glorifying our nature that we become a beautiful medium through which the world can look and see God.

To the common reader, the *Sierras* means nothing but a range of huge, rugged mountains. But when we know *sierra* means a saw, and that these mountains give, in their regular ruggedness, the appearance of teeth, we see a long line of saw-teeth, mountains big.

"Tribulation," of course, means affliction ; but it means much more to one

who knows the word is derived from "tribulum," a huge, heavy, rough-toothed instrument drawn over the wheat stalks to bring out the bright kernels from the adhering chaff. We are thus reminded that *tribulation* is not intended to crush and destroy, but to separate us from moral chaff and make valuable what God has put within us.

Pastime is an expression containing an etymological meaning hidden from superficial minds. We generally mean by it only a little short-lived amusement, —a diversion from life's routine. But does not this definition, and the very form of the word, bring to us two sad facts? First, have we then so much time we are willing to while away a part of it?—willing to see it pass from us without question of profit?—willing to let it slip past us without calling it to account. 2d. It reveals a life that does not give its possessor satisfaction, and shows an effort to throw on the back of old Time our troubles, at least at intervals. But it will not take them. It rolls them back on us. Then we find that, tho time has past we are left in our own unrest

Diversion is a similar word. In our flippant, artificial, thoughtless live, we think of *diversion* as something that pleasantly diverts or turns aside some of the cares and burdens of life, and thus helps us to forget them. Well, they may act to the disquieted as opiates do to the sick man; but as opiates only smother and do not cure, so *diversions* do not take from our burdens; they, at best, only deceive us, or make us forget, for a time, their real character, and the importance of overcoming them, instead of being diverted from them.

We are too apt to look to something outside ourselves that shall *divert* us from some burden or unhappiness, instead of so ordering our lives as that happiness shall be our normal condition.

But we must discriminate between what is mere diversion and pastime, and what is *recreation*. The latter term carries in its very construction a re-newing, equivalent to a new life,—it is a re-creation of lost energies. This is, too, quite different from the feeling of *transport*. If we look carefully at transport we find in it the idea of being carried away into a foreign and unnatural sphere. Even *rapture* embraces this same abnormal feeling, including ravishment and captivity to our surroundings, and from which transport and rapture snatches us to carry us out of and above ourselves. Let us be careful lest they let us fall back,—bruised and mangled as we again reach our normal sphere.

How is Food Transformed into Living Tissue?—III.

THE CIRCULATION, CONTINUED.

FROM the heart extends the aorta, branching off into the great trunks of the arteries, these branching again into smaller arteries, and so on till the blood reaches the capillaries. The extremities of these arterial capillaries meet the mouths of the venous capillaries, and the blood is sucked through these into the veins, and thence passed up through the ascending and descending vena cava back to the heart.

It is into this majestic circulation that the thoracic duct throws its milky chyle from the lacteals of the small intestine, after it has been purified and prepared for vitalization by passing through the anastomotic net-work of the mesentery.

There is change in the fluid throughout all these movements; increased life and energy and power; constant preparation to meet immediate needs, and giving out and receiving changes, as tho the very soul and center of life was everywhere and in everything. The blood as it leaves the heart, is not perfect, but is continually perfecting itself; its little cells of vital growth are continually maturing and then splitting, as so many seed germs from which others grow and mature, each with properties, powers and destinies for special duties, relationships and processes in the great building. Each seems to know the precise purpose for which it was

created, and takes its place just where and when and how and in the exact proportion the great Superintending Intelligence designed it to live and act, to nourish and strengthen, to develop and perfect. There it remains till it completes its work and destiny. Then it is called by the absorbents to step down and out.

We have previously asked the question, How is the sap in the tree, and the blood in the human body enabled to pass up the trunk as well as down? What force propels it? We only partially answered. Besides the force in us of the heart's action, the blood is assisted much by the valves of the arteries, by which at each pulsation of the heart propelling the blood forward, these valves close, preventing the blood's return. But besides this propulsion, and the assistance of these valves, there is no doubt an electric current, positive and negative, assisting its outflow as artificial blood and its inflow as venous. The phenomena of both the actions of the bloodvessels and the nerves of motion and sensation, and the action of the brain and of the sympathetic system, all prove this. In other words, we are an electric battery with wires strung in every direction, and power passes out from the heart on some and returns on others. These valves are found also in the tree, and there is evidence there also of the force of electricity.

Thus we trace the three systems of assimilation: The digestive process in the alimentary canal, changing food into chyme in the stomach; and then into chyle in the small intestine; the absorbent system, taking the chyle from the intestine by its minute lacteals and changing it to lymph in the mesenteric network; and the circulatory system that takes the blood, formed from this lymph, to all parts of the body to deposit new material and to take up worn-out matter.

The transformations in the alimentary canal seem to be mainly chemical; those of absorption through the mesentery, vital; and those of the circulation, mechanical. Yet these terms are only comparative. Vitality must be in the very food, that it may be still farther vitalized—it is life with a change of life, that is all; and yet this a great and wonderful change. We say the new life begins with the contact of the milky chyle with the germs of the living blood, and that the process of food to chyme and of chyme to chyle is chemical. It is well to give distinctive terms to each change, and yet both processes are a species of life. Where is there not life? The very rock has motion, and motion of motions in its every particle; the microscope reveals fields of vision between even these particles we call in the aggregate a stone, and in these fields between these stony particles there are growths of vegetation and atmosphere and sky; electricity plays its part and thunders its behests; change is constant and everywhere throughout its mass.

The five hundred glands in the human system are each essential for special purposes. Some are laboratories, in which important materials are prepared and sent out into circulation; some are store-houses, in which are kept reserve materials or forces; and others are purifiers.

A successful smoking concert in connection with the Athletic Club of the Dental Hospital of London was held on Friday evening, October 25th, at the Hummum's Hotel, under the presidency of Mr. George Gregson, the senior surgeon of the hospital. Several members of the staff were present, and some good music was listened to. Mr. Smith Turner fairly "brought down the house" by his masterly rendering of his celebrated song "Good St. Anthony." Two more concerts will be held during the session.—*Dental Record, England.*

If dentists and dental students are by such notices of approval by editors, encouraged in such smoking revelries, what must the baneful consequences be to the dignity of the profession? This degenerating smoke habit is bad enough in America, but not so bad as this. If men or women must smoke or chew or snuff, let them at least be kept away from the position of a dentist over patients in the chair. The lower down in the scale of humanity we go the more tobacco we find. The higher in the scale we come the more refinement and purity and cleanliness, till we are where we should glory in standing,—side by side with noble women. The standard for morals and esthetic refinement should be the same for both sexes.

"A LA WELCH."

"A YOUNG lady who teaches music in an academy of music, sent an order to her publisher recently, in which she feared the spelling might not all be correct, and apologized in postscript as follows :

'You must exkews this letter, as I play by noat, butt spel bi ear.' "

We r glad our efforts at simplifiing speling r thot wrthi evn ov a jōk—let it b enithing that wil prodūs a thot in this direkshun.

It iz a shām that our splended languaj in its nōbl yung manhōd—so ūsful, būtiful and promising, that it iz invited into king'z housez al ovr the rth, shūd b stil drest in its bābi klōz, and evn thēz much the wrs for wār. No wundr, when he iz amung forenrz he iz kept privāt, and not enkerajd to mingl with the pēpl, and that forenrz amung us r ashāmd ov him. Eyn when he hidz himself in the junglz ov the wildrnes the veri hēthn laf at him. We have to aknolej that he lūks ākwrd enuf, and wāks ākwrd, and hiz inapropriāt, ānshant and lūdikrus klōthing, iz enuf to māk him fēl ākwrd. Drest in presentabl habiliments he wūd bekum the monark ov the ūnivr, insted ov the lafing stāk ov sensibl prsnz. Eyn the languajes ov Afrikan hēthn r klōthd in preti respektabl fonetiks, when ritn at al.

The yung lādi, who rōt the abuv nōt to hr mūzek tēchr, spelt betr than the man who introdūsez hr nōt. Thr iz skarsli a wrd ov hiz languaj korektli spelt; and if uthrz did not spel az badli az he duz, he wud b ashāmd ov it, and b laft at for hiz ignorens.

But the demandz ov the telegraf, the tīp ritr and fonografi r gradual, but shūrli, doing whot argument and komun sens hav so long fāld to akomplish. The more tha r ūzd the lowdr the kri wil b for simplifid speling. And tha wil hav it. Then thōz who now snēr at it wil rejois with us who r now striving for it. Thr r fū who do not se the unreznablnes, inkonveniens and absrditi ov our prezent speling, but not meni hav the kurāj ov thar konvikshunz. U and I o it to our komun sens, to our children and to our grand languaj that we rit fonetikali; but we prēfr to folō the multitūd to do rong. With the yung lādi who was askt whī she drest so absrdli, we can ōnli replī, "It iz the fashn." Thr iz no rēzn or sens in it; both r travleng agenst it.

Certainly great credit is due Dr. Suddeth for improving the *Cosmos* and the *International Journal*. What a giant of intellect and enterprise he must be! We are not sure he intended this. But his indefatigable labors on his own journal, and his unmerciful criticisms of the *Cosmos*, have certainly had the tendency to improve both. The *Cosmos* comes out this year in a new dress as clean and beautiful as a young maiden, in spirits and pluck as sprightly and pugilistic as a young warrior, and in self-conscious worth and maturity, as dignified as a gentleman of nobility and well-earned reputation. The editor of the *Cosmos* deserves great credit for so freely advertising his new rival.

Hard to Please.—Some months since we placed one of Brother Watt's articles among our editorials, (tho we confess it was by mistake). He was displeased; it had been written in haste, and therefore had in it many errors of composition. We thought we would atone for this by giving our readers one of his finished productions, written by him 25 years ago, when he was in the prime of his glory, and set forth as the leading lecture of a course before his collegiate class. He is at us again. He says it is not half as good as he could have written it if he could have commanded more time. If he can write better than that, we should like to see the result. It is one of the finest pieces of composition we have seen for many a day, and very useful in substance.

The Odontological Society of Pennsylvania has just sent us its Transactions for 1886, 1887, and 1888. We shall feel it an honor to draw from it to interest our readers. Dr. Tees has our thanks.

History of Stars.

THE stars exhibit a regular sequence of events throughout their history. They are the orderly and well-regulated citizens of the celestial empire. But space contains erratic stars which cannot be classed with our own benignant, well-mannered, and still sufficiently warm if rapidly aging sun. They are the variable stars, which in many cases increase and decrease enormously in brightness in more or less regular periods, and the so-called new stars which suddenly blaze out in the heavens and then slowly fade from sight, never to appear again. The meteoritic theory undertakes to account for these irregular varieties of stars also. According to Mr. Lockyer's idea, variable stars are formed by two swarms of meteorites, one revolving close around the other in an elliptic orbit, so that when their centers are nearest together, more meteorites come into collision than when they are further apart. The outburst of a new star he supposes is caused by the meeting of two elongated swarms in space, like railroad trains coming into collision at the crossing of two roads. At the point of meeting there will be a dazzling display of light owing to the crashing together of the meteorites, and this will last as long as the swarms are passing their common meeting point, after which the "star" will disappear.

It has been long known that comets are condensed swarms of meteors, and Mr. Dockyer, of course, includes them in his theory. The most mysterious thing about a comet is its tail, which is evidently composed of something that the sun drives off from the body of the comet as it approaches. As the comet swings around, the tail always keeps on the side away from the sun. It is significant that comets which have come permanently under the government of the sun's attraction and continue to revolve around it in regular periods, generally lose their tails, the apparent reason being that the material which the sun rejects finally becomes eliminated from them. According to the Lockyer theory, the tails of the comets are probably composed largely of gases existing in meteorites, and which can be driven out by comparatively slight heating. This gaseous matter is repelled by the radiant energy of the sun, which is the very life blood of the solar body, since it also prevents the collection of absorbing vapors in the atmosphere. When the energy begins to fail, the permanent gases begin to close in on the doomed star, and its final extinction is only a matter of time.

How different is the aspect in which such studies as these present the universe to our view from that in which it appeared to men in former times! Then, the celestial bodies were looked on as something differing in their very essence from terrestrial phenomena. A complete distinction was imagined between the heavens and the earth. But now we see they are continuous—one in composition, identical in origin, united in destiny. We are in touch with the whole creation. Stars have a beginning, a development, a noontide of life and energy, a period of decline, and an ending that we may call their death, like all other things; and, thanks to the telescope, the spectroscope, and the photographic camera, there is not a stage in their marvelous history in which we cannot recognize the operation of Nature's most familiar laws transforming the common substances that compose the earth into all the wonder works of the heavens.—*Garret P. Serviss, in the New York Sun.*

Reform in the Burial of the Dead.

THE abuses connected with the present method of the disposal of the dead are not all met and remedied by either cremation or desiccation. While sanitarians are directing the public mind to the possibilities of the contamination of water and air by earth-burial, equally philanthropic men are calling attention to the necessity for reform in the matter of expensive funerals and mourning, and to the dangers to which the living expose themselves in attending the funerals of those who have died from infectious disease, or at the cemetery, when, in inclement weather, the dead are laid in their last resting place.

In the matter of expensive funerals, Rev. W. W. Gist, who has made an exceedingly forcible argument looking towards reform in these directions, narrates one instance in which a laboring man, without means except as he earned it each day, was not satisfied with a coffin costing \$35 in which to bury his boy, but selected one for which he obligated himself to pay \$100. In another instance which he cites, the undertaker's charges against the estate of a servant girl amounted to \$448.25. This case being brought into court to compel payment, the judge very sensibly decided against the undertaker, on the ground that the charges were unjustifiable. Mr. Gist criticises also the present expensive and unchristian custom of dressing in black. Oftentimes the entire available means

of an already destitute family are expended in following the prevailing fashion, for fear that were this not done, their love and reverence for the deceased might be questioned.

There has, doubtless, been great reform in the matter of public funerals in cases where death has been due to contagious disease. This is especially true of the large cities, where sanitary laws are more thoroughly enforced than in rural districts. In Brooklyn, prior to the year 1877, there were no restrictions placed on the attendance at the funerals of those who died of infectious disease, and the inspectors of the Board of Health, who were directed to be present at such funerals, found in some instances the parlors crowded with friends, the coffins open, and children permitted to kiss the lips of the dead. What was then true of Brooklyn was equally true of many other cities, and is presumably true to-day of all cities and villages where sanitary ordinances do not exist or are not enforced. Ten years ago relatives and friends were invited to such funerals through the public press; to-day, "funeral private" almost invariably accompanies the notice of the death; then the presence of the police was sometimes necessary to enforce the ordinance; to-day public opinion is sufficient to insure privacy.

Another custom which would be more honored in the breach than in the observance is that of standing with uncovered head at the grave, no matter what the weather or temperature may be. Indeed, the ground of a cemetery in winter, or in unseasonable weather, is not a fit place on which any but the strongest and most robust should stand. The amount of sickness, even resulting fatally, attributable to exposure at the grave is considerable. It is gratifying to note a strong tendency toward reform in the direction of abstaining from such exposure on the part of the old and feeble, and physicians and clergymen can do great good in encouraging this tendency, by pointing out the serious dangers incurred by those who thus expose themselves. Funeral-reform associations, organized for the purpose of reducing expenses, could well enlarge the scope of their self-assumed task, and lend their aid in abating or modifying the dangers inseparably connected with the present methods of burying the dead.—*Editorial in Brooklyn Med. Journal.*

The Cramping of Women's Feet in China.—A native Chinese journal, discussing the practice of cramping ladies' feet, says that in 1664 the great and enlightened Emperor Kangshi issued an edict forbidding it under heavy penalties, and calling on all local officials to suppress the custom. But four years later, on the advice of the Board of Ceremonies, he withdrew the edict, and left the ladies free to follow their own tastes. The origin of the strange custom seems to be lost in obscurity. In the eighth century of our era the wife of an Emperor of the Tang dynasty is said to have worn shoes only three inches long, and one theory assigns the practice to the fourth century A. D., "when Pan Fei danced before the last of the sovereigns of the Tsi dynasty, and every footstep made a lily grow." It is also said that it originated in the tenth century, when a beautiful concubine of one of the emperors "tied up her feet with silk in the shape of the crescent moon, and all the other beauties of the time imitated her." The older poets make no reference to the cramped foot, but sing of the beauty of the snow-white feet of the women of their times, when the foot-gear, when it was worn, was square-toed for men and round-toed for women. The native writer thinks the custom was progressive, and only gradually attained its present pitch. In the two Southern provinces it is universal; but in many places women's feet are of the natural size.—*English Mechanic.*

A CURE FOR DANDRUFF.

Dr. A. J. Harrison, of Bristol, recommends the following salve for dandruff:

Caustic potash	gr. viii	
Phenic acid	gr. xxiv	
Lanolin	}	aa dr. jv M.
Cocanut oil		

This preparation should be rubbed into the scalp morning and evening.

Cure is usually effected in one to three months.—*Le Progres Med.*

The Silver Question.—Mr. Windom sums up his recommendation in the following concise language. Perhaps it is a solution of this vexed question:

"Issue Treasury notes against deposits of silver bullion at the market price of silver when deposited, payable on demand in such quantities of silver bullion as will equal in value, at the date of presentation, the number of dollars expressed on the face of the notes at the market price of silver, or in gold, at the option of the Government; or in silver dollars, at the option of the holder. Repeal the compulsory features of the present Coinage act.

Depositing Metal.

THE process of depositing metal by electricity is not new, but its adaptation to many purposes has lately received attention and it is working quite a revolution in silver goods. The beauty of the work is that it can be made into any form. The covering of umbrella and cane handles, is a small part of what can be done.

The pure silver is deposited directly upon wood, plaster, or any model, and also upon glass, and the result is a beautiful solid silver piece. It is destined to revolutionize all rolled and stamped work. The principal workers in this line are Thos. G. Brown & Sons, Durand & Co. and Jamouneau & Leibe, all of this city. This process has also been applied largely to the making of dental plates for artificial teeth, the metal being deposited directly upon the model, and a perfect fit is the result, which is a very great advantage over all other plates. Metal is considered by dentists much more healthy for their patients to wear than rubber, which is poisonous to many, and now that a perfect fit can be guaranteed, it is believed that this process will largely supersede all other kinds of plates. It is thought by the manufacturers that this electro-deposit process is only in its infancy and that there is no limit to its adaptation in the arts.

Gold Beating.

THE rough gold is put into a stone crucible, melted, and poured into a mould which gives it the right width for rolling. One hundred dollars' worth of gold is generally moulded at a time, the weight being about 5 ounces. It is then run through the rollers, the pressure of which is so great that the little bar of gold that is 1 inch in width and about 3 inches in length, after being run through several times, becomes a strip about 14 yards in length and about the thickness of a hair. The strip is then cut into 1 inch squares; These squares are put into what is called a cutch. This cutch is composed of 180 skins $3\frac{1}{2}$ inches square. The material that these skins are made of is an invention of French origin, and is kept secret. Formerly vellum was used. A gold square is placed between each skin, one directly over the other, until the cutch is filled. Two parchment bands are put over them in opposite directions to keep them from shifting. The cutch is then beaten for 15 or 20 minutes with a 16-pound hammer. The gold is then taken out of the skins, quartered by a skewer, and put into what is called the shoder. The number of skins in a shoder is 680. These skins come from what is called the bung gut of an ox, one animal furnishing but two skins. The shoder skins are 4 inches square. They are put between the skins in the same manner as in the cutch. They are then beaten for $1\frac{1}{2}$ hours with a 10-pound hammer, taken out, and again quartered with a piece of reed. They are then put into the mould one over the other, as before, until the 900 skins which the mould contains are filled. This is beaten with a hammer weighing 7 pounds for three or four hours. The leaf is then ready to be trimmed and booked. Before the beating process the skins are heated and primed to prevent the leaf from sticking. Heated presses are used to take the moisture from the skins. Each skin is rubbed with a hare's foot with plaster of Paris on both sides before beating. Each one of the first squares of gold beaten out makes 25 leaves, or one book. The trimming of the leaves before they are put into books is done by a sled-shaped machine called a wagon. The trimming and booking is done mostly by girls. The trimmings that are left from the leaves are scraped together and melted over. A little salt added makes it thoroughly clean. The granite block that the beating is done on is about 3 feet in height, the surface being ground smooth, so as to prevent the blows of the hammer from cutting the under side of the mold.—*Scientific American*.

Estimates of the speed of fish are only approximated. One can tell, however, at a glance whether a fish is built for speed or not. A fast fish looks trim and pointed like a yacht. Its head is conical in shape and its fins fit down close to its body, like a knife blade into its handle. Fish with large heads, bigger than their bodies, and with short stubby fins, are built for slow motion. The predatory fishes, those that live on prey, are the fastest swimmers. The food fishes are, as a general thing, the slowest, and consequently are easily captured. Their loss is recompensed, however, by the natural law which makes them very prolific in reproduction. Dolphins have been known to swim around an ocean steamer, and it is quite safe to say that their speed is quite twenty miles an hour; but it may be twice as much. The bonito is a fast-swimming fish; but just what its speed is, is not known. The head of the goose-fish is very large—twenty times as big as its body. It moves about very little, and swims at the bottom of the ocean. The Spanish mackerel is one of the fastest of food fishes. Its body is cone-shaped, and is as smooth as burnished metal. Its speed is as matchless as that of the dolphin, and in motion it cuts the water like a yacht.—*Dental Advertiser*.